MELBOURNE
ATARI
COMPUTER
ENTHUSIASTS
P.O. BOX 340 ROSANNA
VICTORIA AUSTRALIA 3084

Australia
1788-1988

AUGUST 1987
PRICE $4.00

THE AUSTRALIAN ATARI GAZETTE

MACE SUPPORTING
MEMBERS

DISK(S) OF MONTH
842 PRINTSHOP ICONS

Registered By Australia Post Publication No. VBH5389

MELBOURNE ATARI COMPUTER ENTHUSIASTS

(XL/XE and ST)

MACE is an independent computer user group catering for all Atari computer users. It meets on the 2nd Sunday of each month (ex January) in the Rotunda Building, Monash University from 10.30 to 3pm. Its activities span practical as well as demonstration sessions plus a number of Special Interest Groups for both the 8 bit and 16 bit computers: Screen Art, Languages, Adventuring, Education, Midi music etc.

MACE publishes a professional standard magazine each month to keep its members informed of relevant information. Members also have access to a large public domain library. Fees are $25 p.a. plus $5 joining fee. Enquiries: MACE, P.O. Box 340, Rosanna, Victoria 3084.

PARTICIPATING RETAILERS

-McGills 10% on all books
-Technical Books 10% on all books

ARTICLES FOR PUBLICATION

MACE actively solicits articles of worthwhile nature for publication in this magazine. Whilst all care is taken to ensure that no plegarization or copyright infringement occurs, the Editor cannot accept any responsibility for the originality or functional content of individual submissions. All sourced articles should state the source(s) of reference. The views expressed in this magazine are of the authors so named and in no way reflect the opinions of MACE or its committee.

Articles should be submitted for publication using one of the following protocol:

1. On 8Bit or 16Bit disks with the program or article compiled preferably with "ATARIWRITER" or "STWRITER", though other formats are acceptable.
2. Via modem to the EDITOR.
3. REM statements of a program.
4. Put in the box at the meeting.
5. Phone Editor PH: (056) 284379

All other correspondence should be addressed to the postal address of MACE

ATARI

ADVERTISING RATES

Commercial ads are welcomed however, all material presented for insertion must be either on bromide or compiled ready for printing. If artwork and/or bromide is required then an additional fee applies to the following:

Quarter page	(60mm x 170mm)	$10.00
Rear page	(250mm x 170mm)	$35.00
Full page	(inner cover)	$30.00
Full page	(250mm x 170mm)	$25.00
Half page	(120mm x 170mm)	$16.00

Commercial classified ads: 50 cents per line.

CLUB DISKS OF THE MONTH

-8 BIT- -16 BIT-

Club disks of the month are available for purchase. Please name the medium preferred and send $10.00 for the program plus $2 handling and postage fee to the Librarian, C/- MACE. Non-members of MACE wanting these disks, add $5 surcharge to the order.

See SOFTWARE ORDER REQUEST.

A $5 surcharge applies to non-members of MACE.

For Each Disk Purchased.

MEMBERSHIP FEES

Fees are $25.00/year with a joining fee of $5.00. User groups may amalgamate with MACE for the going rate.

Membership fees effective April 1986.

These fees are on a pro-rata basis.

SINGLE MEMBER:		OVERSEAS RATES:
A FULL YEAR:	$25.00	$75 AUST AIRMAIL
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PLUS $5 JOINING FEE

Membership renews in January of each year and a reneval notice is sent out with the first February issue of the magazine. Please write to the Secretary for further details.

MEETINGS

It meets on the 2nd Sunday of each month (ex January) in the Rotunda Building, Monash University from 10.30 to 3pm.

This Gazette has a distribution of 330 copies per month to MACE members, Users Groups, both National and Internationally and a variety of shops throughout Victoria.

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POSTAL ADDRESS:
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PERTH 6000 W.A.
PRESIDENT: Peter Arnold (09) 447 5376
SECRETARY: Alf Gaebler (09) 444 6694
BBS: (09) 306 2134 SYSOP Graham Basden

GEELONG ATARI USERS GROUP

POSTAL ADDRESS:
P.O. BOX 673
GEELONG 3220 VIC.
PRESIDENT: Allen Davey (052) 1133
SECRETARY: Brian Oates (052) 1431
MAGAZINE: *INPUT-OUTPUT*

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ACACIA RIDGE
QLD 4110
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ADELAIDE ATARI COMPUTER CLUB

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NORWOOD 5067 S.A.
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SECRETARY: Peter Waterman (08) 261 5449
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MAGAZINE: *FEEDBACK*

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SYDNEY 2001 N.S.W.
BBS: (02) 529 2059 SYSOP: Larry O'Keefe
(02) 529 8249 (CSACE)
MAGAZINE: *INSIDE INFO*

CANBERRA ATARI USERS GROUP

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P.O. BOX E112
OLD CANBERRA 2000 ACT
CONVENOR: Chris McEwan
Editor: Brian McConnell

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          ** *** **
          ** *** **
          ** *** **
          ** *** **
        ***  ***  ***
      ******   ***   ****** (tm)

   MM  MM      AAA      CCC    EEEE
   M MM M     A   A    C       E
   M    M     ATARI    C       EEE
   M    M     A   A    C       E
   M    M     A   A     CCC    EEEE
     The MELBOURNE-ATARI BBS.
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 300 and 1200 bps full duplex CCITT
 300 and 1200 bps full duplex BELL.
   1200/75 only for D/LOADING
 ==================================
  SysOp's   John & Peter   Burgess.
  ---------------> Stephen Quartly.

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ENTHUSIASTS WISH TO THANK MOBEX FOR
** THEIR SUPPORT AND 1040ST COMPUTER
  DONATION THAT RUNS THIS BBS.  **


      **IMPORTANT NOTE**
If you are communicating with
MEGATERM (tm) and require to
delete back then do so with the
ctrl/(left)ARROW key(s) combination
and then just space/bar out or type
over


   Welcome to the MELBOURNE-ATARI
         8/16-bit BBS..

   [I]nfo for Sig
   [N]ews file
   [F]ile transfer
   [M]essage base
   [S]ig change
   [C]hat with SySop
   [E]dit my profile
   [L]ast callers of this system
   [B]ye (logoff)
```

MACE BBS

(03) 391-5927

WEEKENDS

Please contribute programs, articles to the board.

DISCLAIMER:

Please note that all items in THE AUSTRALIAN ATARI GAZETTE reflect solely the opinion and experience of the respective authors or authors, and have no official connection with Atari Corp.

Although great care is taken to check for accuracy, usefulness and suitability in this Gazette no warranty, either expressed or implied, is offered for any losses due to the use of any material herein.

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ARTICLES/RESOURCES: COMPUTER OWNERS THROUGHOUT AUST.

PLEASE RING COMMITTEE MEMBERS
ONLY BETWEEN 7-9PM
AS THEY NEED THEIR SLEEP ALSO
*** REMEMBER THEY ARE VOLUNTEERS ***

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1987 MEETING DATES

<<<<<========>>>>>

9TH AUGUST
13TH SEPTEMBER
11TH OCTOBER
8TH NOVEMBER
13TH DECEMBER

* * * *

PROPOSED DATES FOR COMING EVENTS

DATE : 9TH August 1987 PLACE: Monash University
VENUE: Rotunda Building COST: 50CENTS at door.

SESSIONS	TIME	ROOM
8 BIT PRACTICAL SESSION :	10.30am	R3
16 BIT FORMAL SESSION :	10.30am	R2
*** C L U B MEETING ** :	12.30pm	R2
8 BIT FORMAL SESSION :	1.00pm	R2
16 BIT PRACTICAL SESSION:	1.00pm	R3

(Times are only estimates)

SPECIAL INTEREST GROUPS MEET IN PRACTICAL SESSIONS.

--++ Please bring a plate of cakes or biscuits for the break between sessions ++--

THE AUSTRALIAN ATARI GAZETTE

THE OFFICIAL JOURNAL OF M.A.C.E.

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MACE BBS 391 5927
WEEKENDS 9AM-12PM

Editor's Message.....

Within the last few months, members would have been noticing a change to the Club and its ever growing efforts to promote membership involvement, membership contact and a wealth of resource material for members.

This change in the Club, took me back to when I first joined MACE in 1983. It seems a long time ago, but time flies and MACE has certainly changed since then. As a member, who also sat up in the stalls, I too asked questions like: what is this Club going to offer myself as a member? What is the Club trying to promote and so on. I soon realised that the Club offers nothing, but it is the members that offer other members everything.

Out of the many clubs and committees that I have had the honor to participate in, none have given myself the most pleasure and support as has MACE and its committee. As a member I soon realised that you get nothing unless you are prepared to put an effort into it, so I decided to do something about it, this magazine serves as proof to that. We have become one of the most known Clubs around not only DOWN UNDER in Aussieland, but also within the U.K., the States, Germany and other countries around the world within a very short period of time. This has come from the continued efforts of numerous people.

Thanks goes out to Ken Pell, who through his travelling around the world, promoted MACE to the fullest a member could, thanks from the members Ken. We would be interested in hearing about your travels. Special thanks to John and Peter Burgess for the development of the Bulletin Board. Also to Stephen Quartly for advice on its structure.

I would also like to inform members that a database on all the magazines that we hold will soon be nearing completion. This task was undertaken by Ian Connor, who has taken on the job of keeping us informed of its progress. Thanks Ian for your time and effort.

It is therefore along these lines that I call all members, and that includes you, to take a minute to think about what you as a member can offer the Club. You will no doubt see that articles are somewhat of a varied sort. Many of these coming from people who are committed else where, but take a moment to contribute some form of assistence. Others who have felt the need to share their experiences with others. I would like to send a very grateful message of appreciation to all that have contributed articles in this issue of your magazine. The article box at the meetings get hungry all too often now. How about helping out.

On this note of assistance I would like to call upon someone in the ST part of the Club to assist Greg Campbell on the taking of notes at the meeting. Because this section of the day does become involved for some members, Greg has asked if someone could possibly take short notes also. Together they can then be used as the minutes and outline of what happened. Thus members that don't get the chance to attend the meeting can be informed.

I would like members to read carefully the article on ANTIC's Copyright Policy on its programs. I would be very interested in your responses. As I too subscribe to the magazine, I believe that ANTIC wishes to drive Atarians away from purchasing their magazine. If you read the fine print in the magazine, "No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher."

If we do what ANTIC wants, then people would be writing to ANTIC every time they typed in the programs, used it on a different TV set, or made changes to improve it. From what appears these programs are for Public Domain. One contradiction in the magazine is that

they have written and advised you to remove and save the software section in a binder. Is this not "stored in a retrieval system" as quoted in their Copyright paragraph.

As you can see they are again cutting their own throats. They asked for help some time ago. Now they are turning their backs on the people who support them. Get your finger out ANTIC and support the product that Atari Users are doing at present. Support users and you will be given support in return. Carrying on with trival issues like this most certainly will have users turning to other resources. I for one, will not be renewing membership to ANTIC if they carry on like this. Sort yourself out and support the Atari users to the fullest.

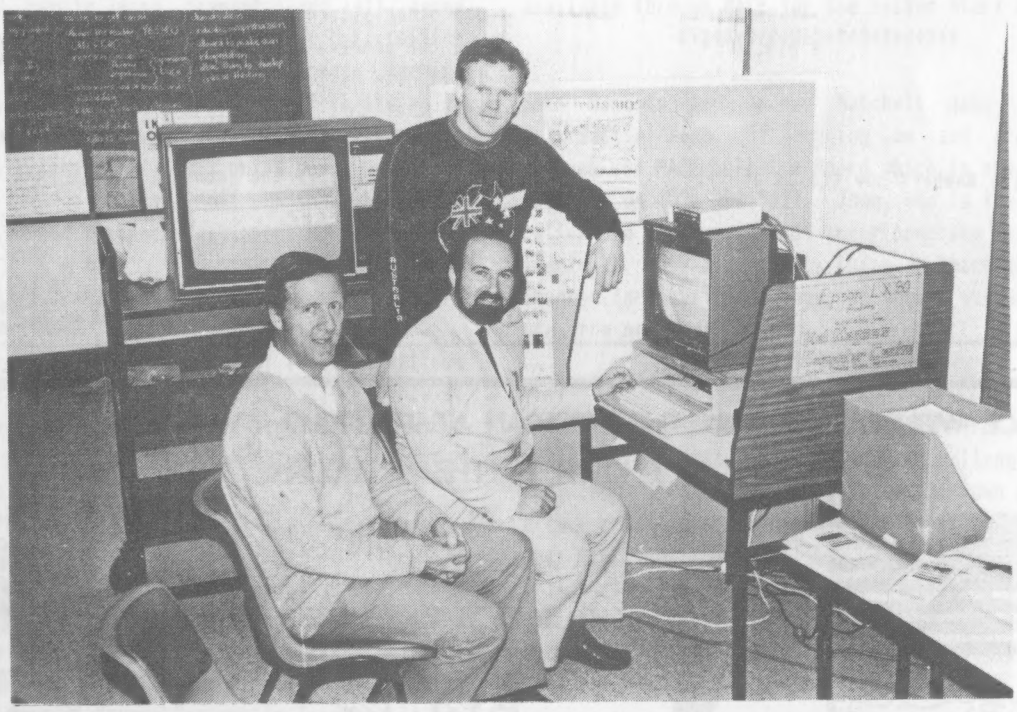
Until next month,

Keepon Computing.....

Neil.....

Members wanting cheap discounts on Atari products,
see: PH COMPUTERS in Dandenong.

PH COMPUTERS
89B FOSTER STREET, DANDENONG PH: 791 3129



Neil Watkins (Back) conducting a telecommunications Inservice at Warragul using the Atari 130XE computer and Megaterm from SUNSOFT in Queensland.
From left: Lester Mason, Warragul Technical School.
Vince Consentino, Viatel.

TREASURER'S REPORT

Greetings once again to all our old?? and new members. MACE's current financial balance for the end of July stand at $5784.48. July totals are as follows.

JULY PAYMENTS

MAGAZINE PRINTING	$ 224.64
PHONE & POSTAGE	$ 107.33
REFRESHMENTS	$ 28.09
LIBRARY (DISKS)	$ 581.99
SUNDRIES (CLUB PRINTER)	$ 400.00
" (ADELAIDE MAG PAYMENT)	$ 228.00
TOTAL	$1570.05

JULY RECEIPTS

FEES	$ 290.00
LIBRARY SALES	$ 572.00
FUND RAISING	$ 49.50
SALES OF CLUB MAGS	$ 8.00
TOTAL	$ 919.50

Current financial members now stands at 241

Getting onto another matter. The committee has O.K'd the go ahead for the installation of a dedicated telephone line for the club's Bulletin Board. As you know, this line will be at the premises of our SYSOP John Burgess. This presents no problem, but the BBS is being operated on the hard disk that belongs to John.

The committee has agreed in principle to eventually purchase a hard disk to take over from John's, but at the moment finances don't permit it.

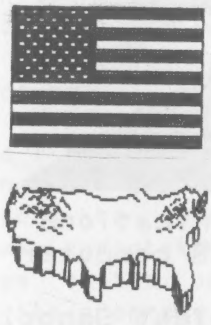
"So what", you may say; "MACE looks like it can afford it". Well it may look like we have plenty, but we still have to go the end of the year yet. We have to pay for our greatest costs, those being printing and posting of the mag, and the hire of the rooms at Monash. Not to mention any incidental costs that may spring up.

So in all fairness to John, it may be necessary to introduce a levy (or whatever you want to call it) for people who wish to use the BBS. This levy would eventually be used to purchase the club's hard disk. The other alternative would be to raise the membership fees (which by the way have not risen in six years at least).

This alternative may seem unfair to those members who may not wish to use to BBS, but like I said, it is only one other alternative. The committee can only go by what you the members elect to do as a group. So think about it for the next meeting as I am sure John will want to know what sort of reaction there is out there. But it seems that from the response of people, they are keen to use it ever since the downfall of TELEDATA.

See ya at the next meeting.

MACE WISHES TO THANK THE MICHIGAN ATARI GROUP (MACE) FOR THEIR SUPPORT SHOWN TO THE MELBOURNE ACE.



SECRETARY'S REPORT

FLASH !!!. Wow ! what a development! After a rather discouraging time lapse, and talks held mostly 'in camera', a policy has been framed, and printed in black and white. It has been decided that Atari computers should snap out of the dim, smudgy, out-of focus, negative area, and become a positive force in Australia. The picture is emerging, Atari computers will enlarge their share of the market by increased exposure of the features we users have known about for so long. What a contrast eh?

This lens itself greatly to our club's growth, for when the promotion starts, more people will zoom out to snap up the goodies. Some buyers may 'blow-up' as a result of computer frustration as the initial gloss wears off. There may be some stop-action as they slide to a stop for want of knowledge or programs. Then the natural reflex is to join a club - ours of course. It will then be up to us to take the wide angle view to help them with the broad spectrum of abilities and facilities we have at hand .

In my candid opinion we will not be reduced by this contact - not by a long shot - but rather, viewed in close-up, this will be a real fixer for us. We will soon be seen on a much stronger focal plane. Just wait a month and you will be able to sepia self!!

‡+‡

The above great news was the main topic of the July meeting which was as usual well attended. Nigel Shepherd is the big wheel in the new company, and if the plans reported by Rita from the recent dealers meeting come to fruition, ATARI should soon be a well known name. We wish Nigel and ATARI computers every success in the venture.

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More than 100 people were present, and all found something to interest them. Alf started the ball rolling early with an outline of how to integrate machine language routines into Basic programs. thanks Alf. Graham also showed a program which he had typed in over a number of days, from Atari User, which would be a real interest getter at a party. Alf was shown how Turbo Basic speeded up his Graphic8 Text program by about ten times

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Owen Brown announced that another of those marvellous week-ends is planned at Mt Buller. It will probably be on the third weekend in November, and cost will be about $30. Only 32 persons can be accommodated, so make your plans now if you want to be in the fun.

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Ken Pell, the convener of the Music SIG, is newly back from a trip to England brimming with new programs and ideas. He tells us there is quite a bit of software about for 8BIT musicians, so if you want more information on that, contact Ken at Sounds Serious in Tecoma. If you have an interest in music, that group has much to offer. Go along to one of their meetings and join in.

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David reported the arrival of 50 disks for the library from Michigan. Most are icons and Movie Maker programs, but there are other good ones as well. see David for more details of these. Any requests for library programs should be made on the order forms at the back or this magazine, before the meetings so that David has time to get them ready for you early. Speaking of the library, dont forget the large selection of books & magazines there for members' use. Magazine subscriptions are also available through MACE for the better Atari mags.

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John Burgess and Andrew Matchett gave us a very informative demo. of logging on and cruising around through the MACE bulletin Board which is now operating on weekends on (03) 391 5927. John, who is the SYSOP, wants callers to send up some of their programs for 'stock', or check it out and see is there anything there for you. Thanks for the demo boys, it should stimulate a lot of use from members.

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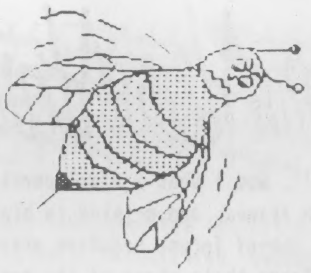
Other people active at the meeting were John Rooke who showed a couple of entertaining and challenging programs, and Tehn Yit Chin demonstrated his own program which allows him to program his *printer* with his own designed character set! Think of the possibilities in that idea. Thanks to all who made the meeting so successful and stimulating to those who attended, and welcome to any people who were there for the first time. Come to the next meeting and I will see you there.

Bill

ST 520ST STING



STING - ST S.I.G.
Notes on the meeting held at Monash University
on Sunday, 14th June, 1987 at 10.30 am - 12.00 noon

1. General Business

MACE and KAOS had adjacent stands at the Melbourne PC'87 Show. Peter Coleman kindly made available his Stereo Tek liquid crystal glasses for CAD3D stereoscopic viewing. Art, Mandelbrot plots, desktop publishing and music software were amongst the many displays.

As from 4th July, 1987, a subsidiary of Atari Corp., based in Sydney and headed by Nigel Shepherd, will operate throughout Australia. Mobex will no longer handle Atari products. Some Mobex staff will change over to the new subsidiary. Some of our committee have been invited to a "dealers information meeting" on 30th June.

The MIDI S.I.G. meeting that was arranged for 31st May was postponed due to our involvement in PC'87 and rescheduled for 28th June at 1.30pm at Essendon Primary School, Napier St., Essendon.

2. Demonstrations

Steve Quartly demonstrated DR. T's KCS by Audio Logic, a MIDI keyboard controlled sequencer (see advt. in The Australian Atari Gazette, June 1987, page 20). Dr. T's THE COPYIST, which is compatible with KCS, will produce publication-quality score. Steve is donating some song files to our library.

Dave Joule (standing in for Ken Pell who is overseas) spoke about Print Technik's video digitizer. He also demonstrated SIGNUM, a powerful WYSIWYG document processor from Germany (see advt. in our Gazette, July 1987, page 18). It runs under GEM and drives Epson-compatible graphics printers. A public domain SIGNUM demonstration disk is available from our library.

An Atari 20 Mbyte hard disk was also demonstrated. The Supra hard disk is faster, smaller and cheaper, however.

SHORT LISTINGS

Next time you are wandering through BOANS, K-MART, or BIG W, and you see a C64 switched on you may like to type in the following program and set it running. Try it out on your ATARI at home first just to make sure you have it right, and don't forget to type NEW before entering a program onto a strange machine. New will delete any previous program lines which might otherwise spoil the program you are trying to write.

```
10 PRINT "ATARI IS BETTER."
20 GOTO 10
30 END
```

Of course this type of program lends itself to all sorts of experimentation. For instance, what happens if you add a few blank spaces within the inverted commers, and a semi-colon (;) at the end?

If the target machine happens to be a SEGA you will notice that it has an unusual font style, somewhat reminiscent of Olde English Script. There also seems to be a few important keys missing from the keyboard, but you can get the above program to work with a little experimentation.

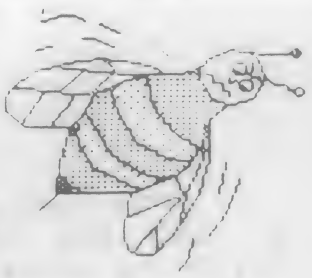
If you happen to see an ATARI sitting with an idle screen you may wish to try this slightly longer program. It will be sure to cause a few jaws to drop, especially that of the Commodore fan next to you.

```
10 GRAPHICS 11
20 FOR X=0 TO 78
30 C=C+1:COLOR C:IF C=127 THEN C=0
40 PLOT X,Y:DRAWTO 78-X,Y:DRAWTO 78-X,191-Y:DRAWTO X,191-Y:DRAWTO X,Y
50 Y=Y+2:IF Y>191 THEN Y=0
60 NEXT X:GOTO 20
```

The above listing came from ANTIC, and is one of the best trade-offs of "listing length" verses "displayed results" that I have been able to find.

John Rosen

ST™ STING



STING - ST S.I.G.
Notes on the meeting held at Monash University on Sunday, 12th July, 1987 at 10.30 am - 12.00 noon

1. General Business

There are now over 180 disks in the ST public domain library. With such a wealth of material available it would be difficult to compose a regular ST Disk of the Month. There are several good demonstration disks of commercial software, for example, The Graphic Artist by PCA.

The MIDI S.I.G. will meet at Ken Pell's place on 23rd August. See Rita for surface-mail subscriptions to ATARI ST USER (about $4 per monthly issue, ordered 3 issues at a time, through the Adelaide Atari Computer Club). PAGE 6 and ATARI USER are also available through the Adelaide club. Ken Pell (Sound Serious) is selling ATARI EXPLORER and ST WORLD (previously ST USER).

2. Ken Pell's Overseas Trip

Ken spoke enthusiastically about his recent observations of the Atari scene in U.K., Germany, Canada and U.S.A.

U.K.: Software Express, which grew out of a Birmingham users group, had four rooms full of software. There is a Mac emulator available which has a switchable disk drive interface allowing direct use of Macintosh disks. A vision mixer with true GENLOCK was demonstrated at an Atari-only show covering 1000 m of floor area. Much music software is being written, even for the 8-bit machines, e.g., by 2 Bit Systems. SUPERBASE is a powerful data-base program. There is a big emphasis on educational use; four U.K. colleges are using the ST machines. The best U.K. Atari magazine is ST WORLD (previously ST USER); the editors cooperate with PAGE 6.

GERMANY: The ST outsells other machines by 10:1, 87% of sales being monochrome systems. (Outside Germany only 25% of ST sales are monochrome.) The software market is self-dependent in Germany. Print Technik have digitizers not only for video but also for high quality audio, e.g. 10 bits sampled at 92 kHz. The document processor SIGNUM may be the best desktop publishing software for the ST.

CANADA: The best (disk) magazine is FASTER; they now hold 14 Mbytes of public domain software.

U.S.A.: A blitter chip upgrade board is available for the 1040ST. It is reported that the sound chip will be upgraded to 4 voice/4 voice stereo (see Byte, March 1986, page 93 about the AMY chip). By comparison with the Amiga monitor, the 70 Hz Atari ST monochrome monitor is free of flicker and ideal for desktop

publishing. The new Mega ST coupled with an inexpensive laser printer engine may result in a sales turnaround. For wide acceptance, the software should be Postscript compatible. Inside the Mega ST is a "PC transfer bus" for transferring GEM files between the ST and the Atari PC (IBM clone). Music software is likely to be ported across to the new Amigas. Hybrid Arts have an ADAP (analog digital audio processor) with 16 channels, echo delay, vocoder, etc., which will rival the new Fairlight CMI (computer music instrument).

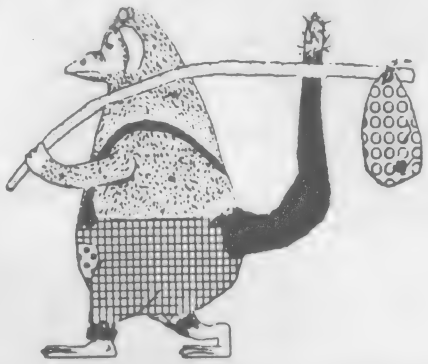
Ken has placed a number of demo disks in the library including ST Replay by 2 Bit Systems (marketed by Michtron), Digi-Sound demo of the Rol-Digitizer made by Olli of Germany (8-bit sound and music digitizer; demo piece is Mike Oldfield's "Foreign Affair") and Audio and Slide Show by Print Technik (video digitizer: Print Technik's Realtizer; audio digitizer: Sound Master Pro which uses either 8 or 10 bit samples). Computer Eyes and Idasoft also market digitizing packages.

3. Demonstration of the Print Technik Digitizer

Neil Watkins used a colour camera connected to the Print Technik Digitizer and monochrome ST system. The digitizer uses the cartridge slot. Up to 16 grey levels can be selected from a menu. Contrast and brightness calibration are performed with the function keys. Continuous digitizing can be selected, the speed of which depends on the number of grey levels chosen. Digitized pictures can be saved in several popular formats, e.g. NeoChrome, DEGAS, Doodle, Art Director and Bit Image. A toolkit is included for transparent copying, mapping to curved surfaces, etc. Colour is not available although colour filters can be used on the camera.

4. Other News

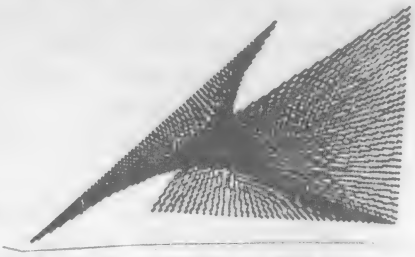
Norm Christian has obtained an update of N-Vision from Audio Light, Inc.; this paint and graphics program is now much more versatile, e.g. colour palettes can be separately saved. Other demonstrations at the meeting included Spheres (by Steve Balczyk) and Star Map (monochrome only). Publishing Partner now has extra fonts for printing. One Mbyte ST upgrades will soon cost $280 as memory chip prices continue to climb. The club has a copy of the International Software Guide from Atari Corp. and also their Australian marketing plans.



<<<=== PROBE

NEWS FROM ATARI

by Alf.

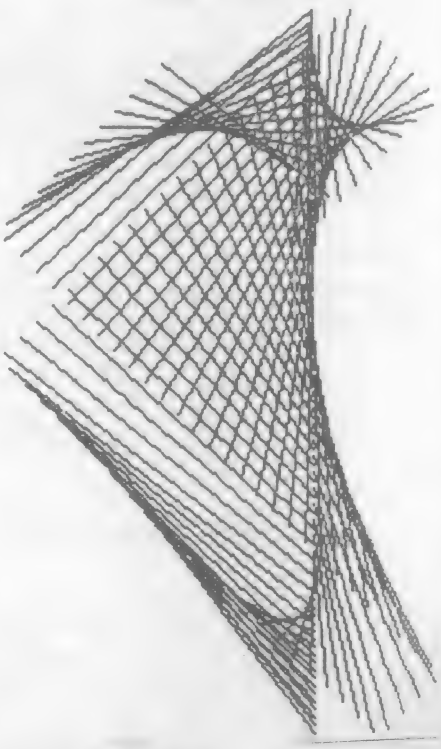


MUSICAL CALENDAR - Part 3

```
410 OPEN #1,4,0,"K:":REM Open the keyboard for input
420 ? #6;CHR$(125):GOSUB 1310:REM Clear screen
430 ? #6;"ENTER THE MONTH AS  1 TO 12 AND THEN    PRESS THE RETURN KEY"
440 ? #6;"MONTH IS ";
450 GOSUB 610:REM Get date routine
460 IF ERR OR NUM<1 OR NUM>12 THEN 560
470 MTH=NUM:? #6:GOSUB 1110:REM Wait for response
480 ? #6;CHR$(125):GOSUB 1310:REM Clear screen
490 ? #6;"ENTER THE YEAR":? #6;"EG. 1986 AND THEN"
500 ? #6;"PRESS THE RETURN KEY"
510 ? #6;"YEAR IS ";
520 GOSUB 610:REM Get date routine
530 IF ERR OR NUM<1 OR NUM>20000 THEN 580
540 CLOSE #1:REM Close channel #1
550 YEAR=NUM:? #6:GOSUB 1110:RETURN :REM End of INDATE routine
560 ? #6;"INVALID MONTH"
570 ? #6:GOSUB 1110:GOTO 420
580 ? #6;"INVALID YEAR"
590 ? #6:GOSUB 1110:GOTO 480
600 REM Get Date Routine
610 NUM=0:ERR=0
620 GET #1,CHAR:PUT #6,CHAR
630 IF CHAR=155 THEN ? #6:RETURN :REM Return key
640 IF CHAR<48 OR CHAR>57 THEN ERR=1:GOTO 620
650 NUM=NUM*10+VAL(CHR$(CHAR)):GOTO 620
```

In the Nov. 1986 issue of the Mace newsletter, we began a new series of articles which deal with the art of writing programs in Basic. If you have missed out on any issues prior to this magazine, you can obtain back issues through the club or from members.

You can either type the above program lines in, LIST them to disk as 'CALENPAR.T3L' and then merge Part 3 with Parts 1 and 2 or you can load your previously merged Calendar program (Parts 1 and 2) and then add the above program code (Part 3). Type the program exactly as shown and take particular care with the blank spaces within the quotes (") in lines 430, 440 and 510.



There is nothing more annoying than to find that a program you typed into the computer from a book or magazine does not work. Usually, when that happens to me, I query my typing first and so should you. It's easier, if you have a printer, to print out the program and to check the typing against the published material at your desk. But you must discipline yourself and check carefully, letter for letter, symbol for symbol and not simply skim over the program. Unfortunately, even after the most careful check, quite a lot of programs published in computer books and magazines do not work properly. I once heard somebody state that programs published in COMPUTE! had deliberate misprints to coerce customers to purchase subsequent issues. Personally, I don't agree, but publishers and authors preparing programs for publication have a duty to take more care. Misprinting a word in a novel does not nearly cause the same problems as a mistake of even a single character in a program. For this reason, I always make sure that my program listings are error free by printing programs directly on my printer.

Calendar Part 3 has three distinct sections. Program lines 410 to 550 consist of the main logic for input of the month and year. Lines 560 to 590 handle the error messages while lines 600 to 650 make up the input subroutine.

For this month, let's just look at the heart of the INDATE routine which are program lines 410 and 610 to 650.

In line 410, we OPEN channel #1 for input from the keyboard. Unlike some other devices which can be opened for both input and output of data, the keyboard can only be used as an input device. In other words, you cannot output data to the keyboard as you would to a printer, for instance. Once the keyboard is open, we can obtain a single character of input via the GET command, program line 620. Here, we GET one character from the keyboard. The value of the input character is held in the variable CHAR. We also print the character to the screen (PUT #6,CHAR) which is permanently open as an output device on channel #6. Remember, in last month's article, I said that the Basic Graphics command automatically opens the screen as an I/O (input/output) device on channel #6. The reason for displaying the input character on the screen is so that you can see which key was pressed. If you don't believe me, Run the program without the PUT statement in program line 620.

As you could have pressed any key on the keyboard, intentionally or by mistake, we must ensure that we only accept valid input. This is done in lines 630 and 640. We only want to accept the numbers 0 to 9 for the dates and the RETURN Key at the end of the data. Line 630 checks if the RETURN Key (ATASCII value 155) was pressed. In this case, we have completely entered the number of the month or the year and can now RETURN from the

AVS 345 34512741a 0c
NORTH BRABANT
N. B.
8 next graphic 9 prev. index 0 index

AVS 345 34512713a 0c
WESTPAC BANKING CORPORATION
Press 8 for next graphic 9 previous index, 0 Main index

National Trading Post 774a 0c

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About the National Trading Post

Please enter your PERSONAL PASSWORD
(Key ** if you make a mistake)

---

subroutine back to the main logic above. Line 640 checks if a number from 0 to 9 was pressed. ATASCII values for the numbers '0 to 9' range from 48 to 57, where '0' has the value 48 and '9' has the value 57. Anything outside this range, we regard as invalid and reject it. We set the variable ERR to '1' to indicate that an error occurred in the input subroutine. If no error occurred, but a valid number between 0 and 9 was entered, line 650 will be executed instead. This complex looking statement takes each character as it is input and progressively accumulates a decimal value. For instance, if we were to enter the single digits 1, 2 and 3, we would end up with the number '123' in the variable NUM. NUM is initialized with a zero value in line 610 when we start the input subroutine. As we enter the character '1' on the keyboard, NUM is multiplied by 10 (0*10=0) and we add the '1', which makes NUM equal to 1. When we enter the character '2', NUM is again multiplied by 10 (1*10=10) and we add the '2'. So now, after having entered the two characters '1 and 2', the value in NUM is 12. Next, we enter the character '3'. NUM*10 (12*10=120) plus the '3' just input makes NUM equal to 123. When we now press the RETURN key, we exit the subroutine with the decimal value of 123 in the variable NUM.
The command 'VAL(CHR$(CHAR))' in line 650 simply converts the ATASCII keyboard value to a numeric value. Can you show me another, perhaps simpler method instead? Till next month when we'll complete the discussion of Calendar Part 3.

National Trading Post 7741a 0c

1 RACING INFORMATION
2 SPORTS BETTING
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4 WELCOME TO TELETAB
5 TODAYS RACING
6 THE TAB WHO WE ARE
7 NEW RESULTS & DIVS

TELETAB

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TELECOM AUSTRALIA

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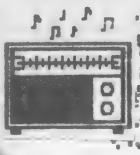

DISK OF THE MONTH - AUGUST 1982

PRINTSHOP ICON LIBRARY DISKS

MACE through its library disk exchange with other Clubs, is proud to present 8 icon picture disks for the 8 Bit computer.

These disks have come from :

Michigan Atari Computer Enthusiasts

U.S.A.

The total 8 disks contain over 842 Icons for use with PRINTSHOP or PRINTSHOP COMPANION.

These disks can be purchased for **$10.00 each** or the total 8 disks for: **$60.00 THE LOT!!!**

This is indeed an excellent offer to members.

Take advantage of this offer for the month of August.

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Contact Editor.

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BUILD YOUR OWN INTERFACE UNIT.

Home-made 850
(Reprint: ACE, April 1987)

Unlike most computer companies, when Atari designed its 8-bit machines it left out the RS232-C interface to keep down the cost of the computer. To communicate with RS232-C peripherals such as a modem or printer, requiresand 850 interface , which retails for about $200; an expensive accessory. Other interfaces are available with either a serial or parallel port, but usually not both. The "P:R: Connection" does offer both, and retails for about $100. It is a cheaper alternative, but requires the loading of a software program to initialize the R: handler, and it may not always be compatible with other software used to run a modem or/and printer. The 850 interface is a computer in itself, containing a microprocessor and a built in ROM R: handler, and has extensive I/O capabilities. If the cost of an 850 could be reduced to less than $100 it might be the best unit to do the job.

THE $75 850 INTERFACE -- Some parts needed to build the interface must be ordered from the U.S., but the rest are available locally. The 850 bare board is available from American TV(check Antic or Analog for ads) for $10 US. You will receive a high quality double-sided Atari factory-original printed circuit board, a crystal (needed to control the microprocessor), and an intruction sheet. Also order two CO10750(6532) PIA chips for $4.50 US each for the same company. The information sheet provides a complete listing of all the parts needed for 4 serial ports and one parallel port. At the end of the sheet is a list of the parts which can be deleted if only one serial port(for modem) and one parallel port(for printer) are required, which is the usual case. The 850 ROM chip CO112099B can ordered from B&C Computervisions for $12 US (check ads as above).

A cheaper alternative is to buy a 2532 EPROM locally for about $10 and burn in the R: handler. The code listing of the ROM is readily available, but you will need access to an EPROM burner. The information sheet details a modification to the board to enable it to use the EPROM chip. All the rest of the parts, including the capacitors, resistors, diodes, transistors, ICs, and IC sockets needed to complete the board are available locally. If you are fortunate enough to have and electronic junk box or scrap circuit boards, you may find you already have many of these items you need. This will reduce the cost of the project even more.

BUILD YOUR OWN INTERFACE UNIT. (Conf)

PUTTING THE 850 TOGETHER -- The only tools needed are a set of long-nose pliers to bend and shape te component leads, a small pair of ide cutters to cut excess lead for the bottom of the board, a screwdriver to attach the voltage regulator to the heatsink, 3 metres of 1.2mm or 0.7mm fine resin core solder,and a 25watt soldering pencil with a fine tip. If you have a higher wattage soldering pencil, wrapping a copperwire of the desired size around the tip and extending it out to form a new tip produces good results. Since all the component holes are plated through both sides, soldering is very easy. Heat the lead and copper pad and apply just enough solder to fill the hole. Another tool you should have is the volt metre.

It's a good idea to check the supply voltage values before the chips are plug in. The parts detailed in the instructions sheet have component numbers (ie C101,R122) which correspond to the location on the circuit board. All the resistor needed, except one are 1/4 watt size, although 1/2 watt resistors can be used. The signal capacitors, according to the instruction sheet, should be glass or epoxy type. I used the cheaper ceramic disc type capacitors, and they worked fine. The size of the signal capacitors is not critical either, as the board is drilled with extra holes to allow up to 3 different sizes. The resistors, crystal, and signal capacitors have not polarity. The eletrolytic capacitors are polarized, and the board indicates where the positive lead should go. The signal diodes, rectifiers, and zener diode are also polarized. The band end of the diode should face the shaded end of the component outline on the board.

The LED 'power on' indicator should be installed with the flat edge of the base facing the AC power jack. The microchips and the transistors should be socketed to remove the possibility of heat damage, which can occur when soldering them directly to the board. The notch in the microchips should face the notch in the outline of the component on the board. The instruction sheet explains what the proper lead placement is for the transistors.

DO NOT install the microchips into their sockets after completing assembly of the board, and testing the voltage. One of the voltage regulators (A112) must have a heat sink to dissipate the heat produced by regulating the voltage of the microchips. The heat sink should be about 1 to 1-1/2 inches high by 1-1/2 to 2 inches wide, and shaped to for a U to match the outline on the board. Commercial heat sink are available, but one can can be made form any soft metal, like copper. It is not important to solder the heat sink to the board as the original was designed to be. The metal tap of the voltage regulator can be attached directly to the heat sink with a screw and nut.

The selection of I/O plugs, A/C input jack, LED power indicator, printer port, and serial port all depend upon the type of enclosure used to house the board. It is not likely the enclosure will be just the right size to allow the parts to be mounted on the board as the originals were. Select parts which will easy to mount in you enclosure, and run wires to the board. The parallel port can be an RS232-C connector, or any type of connector with at least 13 pins. The serial modem port can be a 9 pin DB9 type connector, or any 8 pin connector. Make or change your cables to match the connector choosen. The original board had a shield around the microchips, but works fine without one.

POWER-UP AND TEST RUN--I did change one component from what was called for by the original circuit. The 2 watt resistor(R155) runs across the input to output of the voltage regulator(A112). If the regulator breaks down, more than 5 volts will be applied to the microchips. The 6532 microprocessors have a maximum of 7 volts, and will be damaged by this voltage. To protect the microchips, I left the R155 out and put a 5.6 volt, 1 amp zener in from the ground to the output of A112 (the band of the zener faces the output of the regulator). With all the parts in place, except for the microchips, plug in a 9 volt AC power adapter.

Set a volt meter to read positive 10 volts, and connect the ground lead to the head sink of A112. Connect the positive lead of the volt metre to the non-banded end of CR120. Turn on the power switch and be sure the LED indicator is on. The volt metre should read 5 volts. Now connect the positive lead to the banded end of CR120. The volt metre should read 10 volts. Change the volt metre to read a negative 10 volts, and connect the positive lead to the emitter of Q102 (the lead closest to the AC power jack).

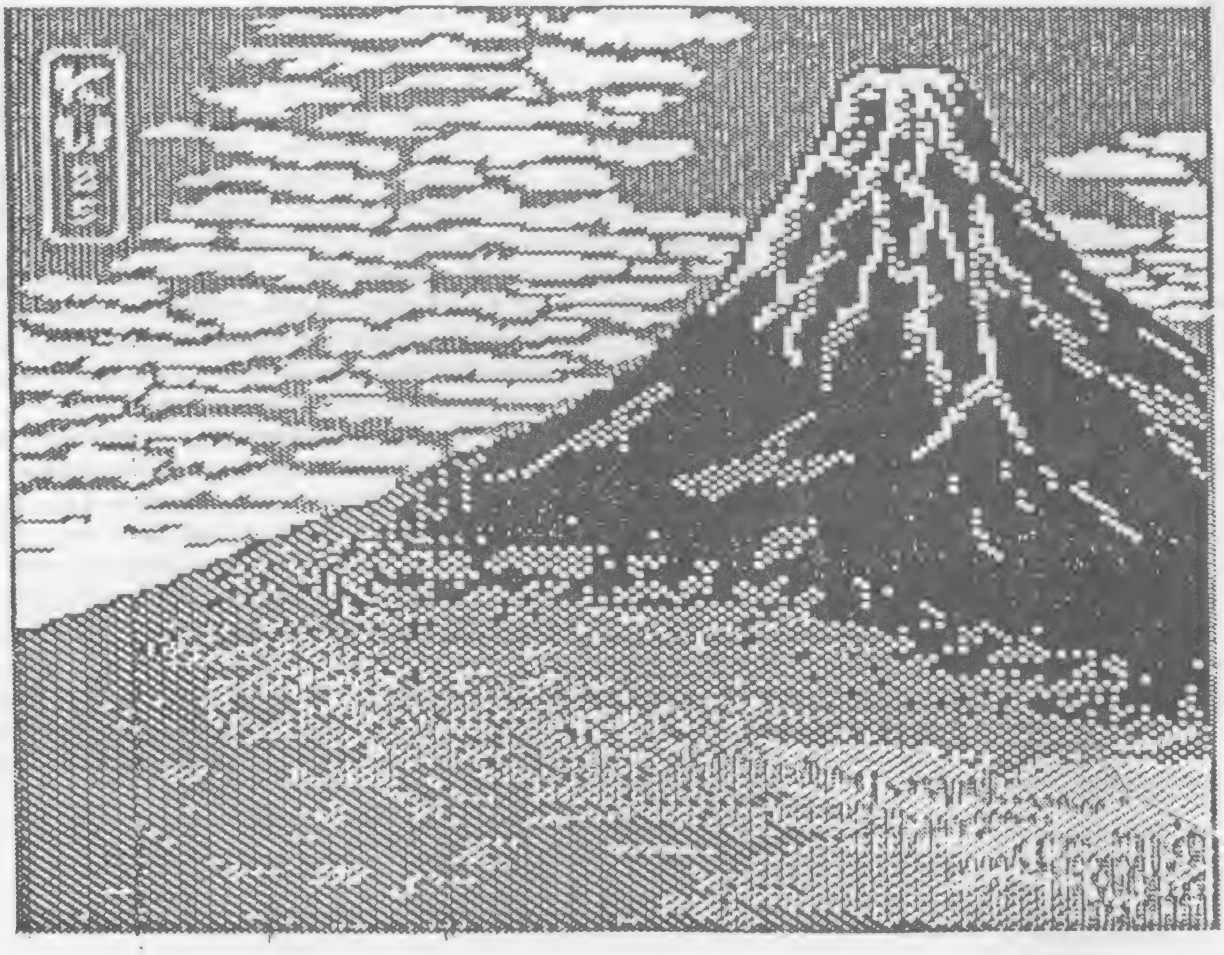
The metre should read approximately -8.25 volts. The microchips would not be inserted until these voltages have been obtained. When inserting all the chips, make sure the notch end of the chips faces the notch end of the board outline of the chip.
Testing the 850 Interface is very easy. Connect the Serial I/O cable from your compuer to the interface and power up the interface. Turn on the computer with the Basic cartridge in, and listen for a multi-tone sound from the speaker. The tone indicates the R:handler has loaded properly and is acknowledged by the computer. If the interface fails to work properly, check for solder bridges across pads; check all the chips and components to see they are in the correct locations; check to see if all polarities are correct, too. I have had fun building my 850 Interface and have used it with a modem and the Hometerm program to communicate with many BBS. The shareware program 850 Express v.3 works great, too. The club library has a copy of the 850 Interface manual, which describes in detail all the functions of the 850, and how to program software to run with it.

--Bob Septou ACE.

A FLASHY DEMO — from Julian Horn

```
10 REM ** A FLASHY DEMO **
20 REM ** BY J. HORN    **
30 FOR X=0 TO 29:READ A:POKE 1536+X,A:
NEXT X
40 GRAPHICS 2
50 POSITION 7,1:? #6;"DANGER":POSITION
 4,3:? #6;"do not press":POSITION 4,5:
? #6;"system reset"
60 POKE 708,58:POKE 204,15
70 X=USR(1555)
99 REM VBI FLASH ROUTINE
100 DATA 198,204,208,12,169
110 DATA 25
111 REM ABOVE LINE - FLASH RATE
112 REM 1 IS FAST
120 DATA 133,204,169,15,77
130 DATA 196,2,141,196,2
140 REM 196'S IN ABOVE LINE TIE IN
142 REM WITH COLOR REGISTERS
143 REM TRY 196 TO 208
150 DATA 76,98,228,169,7,162,6,160,8,3
2,92,228,104,96
```

```
                        10 ;VBI FLASH ROUTINE
                        20 ;JULIAN HORN
                        30 ;
                        40 ;System equates
02C4                    50 COLOR0   =   $02C4
E45C                    60 SETVBV   =   $E45C
E462                    70 XITVBV   =   $E462
                        80 ;
                        90 ;Zero-page equates
00CC                    0100 Y0001  =   $CC
                        0110 ;
0000                    0120        *=  $0600
0600 C6CC               0130        DEC Y0001
0602 D00C               0140        BNE L0002
0604 A919               0150        LDA #$19
0606 85CC               0160        STA Y0001
0608 A90F               0170        LDA #$0F
060A 4DC402             0180        EOR COLOR0
060D 8DC402             0190        STA COLOR0
0610 4C62E4             0200 L0002  JMP XITVBV
0613 A907               0210        LDA #$07
0615 A206               0220        LDX #$06
0617 A000               0230        LDY #$00
0619 205CE4             0240        JSR SETVBV
061C 68                 0250        PLA
061D 60                 0260        RTS
061E                    0270        .END
```



FUJI ON A CLEAR DAY (HOKUSAI).....BY KEN WARD

Karate Kid II

A review
by Andr Lafrenire

In our last issue, Raymond M. Deschnes reviewed the ST Karate game program by Paradox. It seemed appropriate for me to review another karate program that became available later. I'm talking about Karate Kid II.

Karate Kid II is the magic of the movie repeated on the packaging and on the game screens. But it's mostly unbelievable programming! It's the first game I've seen on the ST that makes use of the multi-timbral capacity of the Casio MIDI synthesizer to play four different musical voices simultaneously along with the ST internal voices.

In the opening scene, you are in control of Daniel who must fight his opponent twice. The detailed graphics on the walls and through the windows are simply unreal. The game can be played against the computer or shared between two players.

Then comes the first bonus screen. There, you find your master Miyagi who must try to catch a fly using some chopsticks. If you catch it right at the beginning, you get 4,999 points. I found a good trick for this screen. After some time, the fly always lands on Miyagi's nose. By placing your chopsticks near the nose, you should be able to catch the fly just before it lands. The fly always heads that way.

Next, there are two more fight scenes with Daniel, this time in the backyard of the house. There again, carefully designed visual effects, but an adversary that has a little more stamina and who will give you some cold sweats.

After that comes the second bonus screen where you find Daniel in the restaurant, ready to break six sheets of ice. Rotate the handle of your joystick while accelerating the tempo until the drum is beating at full speed. As soon as you feel the speed is sufficient, press the button. Let go of the button as soon as Daniel's hand hits the blocks. I find this particularly difficult, while my son regularly breaks five sheets. (!)

At last comes the final face to face in King Shohashi's castle. If you succeed in beating your opponent, you will see the final screen. Both opponents are immobile then, but not for long. Rotate your joystick handle, and after a few seconds, the drum is beating at full speed; press your button to strike your blow on the opponent. Okay, so you're dead... but with practice, you will probably end up hitting him before he gets you. Good luck!

In conclusion, Karate Kid II is a very carefully designed game program. You won't be faced with interminable struggles as was the case with ST Karate but rather, to a different game where the graphics are eye-pleasing and where the activities are varied. A game a whole family can easily enjoy.

Karate Kid II
Microdeal

BITS & BYTES

BY T.Y. CHIN

SMALL THINGS ABOUT THE 130XE RAMDISK.

After I brought the 130XE, I was very excited about it. One of its major feature is the ramdisk. I was interested in knowing what I can do with it. Well, I found out that the greeting message on the tittle screen of the Ramdisk program can be changed. Instead of it saying installing the 130XE ramdisk, you can be say "welcome to my new program".

It is very simple to alter the message. First of all, make a backup copy of the Ramdisk progam. Next Obtain a word processor. Load the Ramdisk program from the word processor. Enter the edit mode of the word processor. Search for the message 'Installing the 130XE Ramdisk.' Replace with your desire message. Save it under the name RAMDISK.COM. Now transfer RAMDISK.COM to a DOS 2.5 disk. Boot the disk and you will hopefully see the desire message on the screen.

Make sure that your message is no longer than 31 characters, otherwise no message will show up of the screen. If you message is shorter than 31 characters, fill the end of your message wil spaces until you have 31 characters. Also make sure that you message begins when the original message begins.

If anyone know of any other way of changing the greeting message in the Ramdisk program, please let me know.

Upon experimenting with the Ramdisk, I noticed that the ramdisk may be used with the Atariwriter. When saving your textfile, enter the device as D8: if you are using DOS 2.5. If you are using another DOS then use the number which the DOS has given to the ramdisk. Make sure that the Ramdisk program is on the disk to be booted with Atariwriter. The only problem is not be able to look the ramdisk directory.

ANTIC Copyright Policy!

Originally from ACE newsletter.

I hope this article will be published by other user groups nationwide. I think it is time we encourage a letter campaign to Antic Magazine, much the same way as they encouraged us to do so in an effor to get more 8 bit software produced by Electronics Arts a couple of years ago.

As many of you may know I run the HELP BBS, a purely PUBLIC DOMAIN BBS. It is extremely difficult to find good quality PUBLIC DOMAIN software for out computers on a regular basis. Antic magazine prior to April of 1984 did not claim copyright to their software printed as type in programs in their magazine, but in an attempt to force users to type in their programs or buy their DISK issues has decided they own exclusive rights by virtue of copyrights to their programs.

I can certainly understanding their claiming copyright laws to their programs, this should only be excepted. However they refuse to allow these programs to be placed on any type of PUBLIC ACCESS BBS for downloading, or to be placed in any Club library without prior written permission. Having been refused by virtue of not receiving an answer to my request I assume no one is going to get such permission. Supporting this conclusion is the fact their EDITOR wrote to the MACE (Michigan ACE) club and demanded all ANTIC programs be removed from their BBS under penalty of law.

Some of you many know that ANTIC is a member of the SPA, Software Producers of America. The forming of this organization was to track down and to prosecute BBS around the country who were placing Commercial software on their systems for downloading. I heartily agree with their idea, and support them fully, being a software producer myself.

However, I do not see why Antic magazine can't adopt the same practice as Analog magazine of allowing their programs to be placed on public BBS and Club libraries in the month the magazine the was printed for.

I want to point out Analog Magazine also sells DISK issues, so there is a possible loss of revenue for them as well as Antic. I also have to admit I am tired of reading the IO column <reader feedback> in Antic and seeing them type their programs. I can't blame then for wanting to make money, but what is their CATALOG for anyway?

For those who want to write to Antic magazine, please address you letters of:

James Capparell
c/o Antic Magazine
524 Second Street
San Francisco, Ca. 94107
USA

In you letter be sure to indicate you feel Antic should allow to type in program to be placed on BBS and in CLUB libraries in the same manner as their fierce competitor ANALOG magazine. May be with this type of input they will see past the dollor sign of selling a DISK issue into the future of retaining their readership!

I want other clubs to pick up this article and reprint it in their newsletter! We need more than one voice to get a response, we did it once when ANTIC cried for our help! Now we like to see the same co-operation from Antic!

WRITE NOW!!!

[NOTE: Since Melbourne ACE is starting a BBS, I can see that most of the programs will orginate from magazines such as Antic, Analog and Compute! If Antic magazines imposed its copyright ruling on the BBS, I feel that the BBS would lack a lot of quality public domain programs.--TYC]

Leo Newman, HELP BBS SysOp(316)0683-7514 (USA)

REVIEW: QUESTRON

>>>>>Questron<<<<<
Distributed by Strategic Simulations Inc.

Reviewed by Michael Dougherty
For 8-Bit Atari Computers

Questron is an extensive role playing adventure game, consisting of four disk sides (on two disks). Included with the game is a 15 page book on it's history,tales & monsters. This book gives a background and lead up to the game. A command list and basic instruction pamphlet is also included.

The game is commenced by booting up side (0) of disk no.1 (the character disk). The title screen appears and You are requested to hit any key to continue, doing this brings up a menu from which you can select to view scenes from the game, see instructions or start.

Selecting "start" brings up a further menu screen. Upon choosing item (1), the computer asks you to select the name of your character (up to 17 characters long), a brief summary of the history of Questron and your quest is then displayed. Up to four characters can be saved at at any one time on the character disk and can be recalled or deleted by this menu.

Your quest is to find the renegade sorcerer, Mantor, render him powerless by stealing his book of magic and thereby rid the Questron Empire of his hideous monsters.

The actual game begins upon flipping the disk and loading side (1). You start the game as a serf with leather armour and fifty gold pieces and are shown a graphic presentation of the country side around Geraldton (your home town). This portion of the game consists of fighting the various monsters you come across in your travels around Questron, visiting towns & cathedrals and buying supplies, weapons and information. Your characters attributes are increased as you successfully undertake the various challenges. When you have increased your attributes and gained sufficent strength it is necessary for you to find the castle and enter it, for it is here that the key to the rest of the game lies. You will find a number of items that are absolutely necessary to complete the game, but beware the gUards are formidable opponents.

To find "Mantor" you must purchase a boat at Port City and journey to the Land of Evil, here you will find a number of towns and more (but different) monsters, it also has the dungeons, these have to be entered in correct order for it is only by obtaining a special artifact at the bottom of each that you can progress to the next.

The final dungeon is a one way trip at the end of which you must confront and destroy Mantor; if you accomplish this task you are then treated to the grand finale.

I found Questron a very enjoyable role playing adventure. The scope of the game is vast. The problems and puzzles that the adventurer is presented with are not too frustrating or difficult to solve (a fault with many adventure games) yet they do provide a challenge to the average player. Your character's attributes and financial situation can be varied in many ways during the play, this adds contrast to the game.

The dungeons, presented in high resolution three dimensional perspective are fascinating but dangerous places. They consist of a number of levels (mapping is advised) and are populated by monsters and a variety of traps and treasures, they are also the only places where magic is allowed, be careful, your character can only be saved to disk outside the dungeons.

The graphics are generally good and the colours are sharp and clear, there is a fair amount of disk swapping in some parts of the game (the towns and dungeons are on a separate disk to the country side of Questron and the Land of Evil). The play of the game appears well balanced though your character seems able to carry an unusually large amount of equipment, this becomes more noticable as the game progresses. You will find, however, that all of it will be required to accomplish your goal.

I would recommend "Questron" to anyone who is interested in games of the role playing genre. The 8 bit Atari version of the game can be obtained from Military Simulations (Jedko Games), 134 Cochranes Road, Moorabbin Vic.3189.

>>>>The End<<<<

ANNUAL WEEKEND AT THE SNOW - MT. BULLER

Each year MACE books a ski lodge at
Mount Buller in November

It is a COMPUTE-IN
(prehaps with some snow)

PROPOSED DATE: 3RD WEEKEND IN NOV.
FRIDAY NIGHT TO SUNDAY AFTERNOON

APPORXIMATE COST:
$25-30 per adult/weekend
$12 per child under 15 years
** PLEASE BOOK EARLY AS LIMITED ROOMS **

M O R E INFO TO COME.....

F.A.S.T.E.R. CONTRIBUTIONS

Federated Atari ST Enthusiasts Regrouping
from Montreal(BBS-(514)489-0680)

Review #26
May 4, 1986
Typed by Raider

Review from Bill Petry
(ST Applications-April 1986)

'ST-COPY 1.5'

ST-COPY, by Doug Olson, from Midnight Design Software is the fourth available disk back-up program to be revieved for the ST. Apparently, the ST-COPY program we revieved last month from CCI is in conflict with this program as far as name is concerned. XANTH Computer Systems, Inc. maintains that Olson's ST-COPY has been on the market prior the CCI's program, and feel that CCI has to give up the ST-COPY name for their product. They are both very different program. CCI's is a sector copier with enhancement. Olson's is a true bit copier.

On the disk you will find three files: README.DOC, a brief how-to load your ST-COPY; STDOCS a short explanation on hov the program works & what the symbols on the screen mean; and lastly, STCOPY.PRG.

ST-COPY offers two options for copy; normal (<f1>), and extended (<f2>). You can also make multiple copies of disks (<f3>).

The program first maps the source disk (see inset). Periods (.) indicate good sectors and X's indicate bad sectors. Unformatted tracks are so named.

I like this 'disk mapping' feature. This is the ONLY program which actually shows what's on the tracks. It isn't the Archiver as is available for the Atari 810 & 1050 drives. The Archiver is a very sophisticated disk utility which actually enables you to develop & create special formats on disks alloving you to protect your own software should you have the inclination.

The following table summarizes the steps & times for copying disks with Olson's ST-COPY:

Status:	Normal	Protected
Map Disk	32s	5m 23s
Format destination	48s	52s
Read & Write	66s	67s
Total Time:	2m 26s	7m 22s

Reading & writing takes three swaps on a single drive system. Tracks 1-27, 28-54, and 55-80 are read & then written. These swaps are also necessary when making multiple copies, making it a considerable hassle.

I noticed that Olson's ST-COPY will not copy itself, nor will it copy Brattacas (hangs up on formatting the destination disk). It will copy VIP.

For backing up my software I will continue to use CCI's ST-COPY or what ever it will be named in the future (it will even copy Olson's ST-COPY). Hovever for disk investigations, I find Olson's ST-COPY an excellent addition to my personal ST Disk Tool Kit (until Archiver ST).

XANTH Computer Systems Inc.
600 First Ave. Suite 108
Seattle, WA 98104
(206) 643-9697
(34.95$US)

F.A.S.T.E.R. CONTRIBUTIONS

Federated Atari ST Enthusiasts Regrouping
from Montreal(BBS-(514)489-0680)

Review #27
May 4, 1986
Typed by Raider

Review from Bill Petry
(ST Applications-April 1986)

'Micro C-Shell'

GEM is probably the nicest thing (in the computer world) since sliced bread. However, man does not live by bread alone. Using GEM is like taking a bus tour through some foreign country. When you return home you can relate your "experiences" and say "I've been there". However the tour was guided by someone who wanted you to see only what they though was important.

On the other hand, some of us prefer not to take the "Tour bus". Micro C-Shell gives us that option on the ST. It is not a substitute for GEM (which is co-resident), but a collection of disk/file/programming utilities independant of GEM. It has the feel of Unix or CP/M (meaning no quick-look menu from which to choose). You have to know the command words.

MT C-Shell (also from Beckemeyer) is the "Unix-like" multitasking variety.

Micro C-Shell is labeled as a command interpreter. However, it is actually a programming language in which each reserved word runs a command.

For your money, you get a 13-page tutorial, a 29-page programmer's manual, and a program disk.

The tutorial gives you a thorough introduction to Micro C-Shell syntax and a brief overview of the available commands. The programmer's manual (along the same style as the ST Basic sourcebook) gives the description & the use for each of the 28 commands Micro C-Shell contains. Below is a list of these commands:

alias	-give a command an ALIAS
cat	-CATenate and print
cc	-compile and/or assemble named files (DRI C compiler required)
cd	-Change working Directory
chmod	-CHange MODe
cmp	-CoMPare two files
cp	-CoPy file
df	-Disk Free Blocks
diff	-DIFferential File comparator
echo	-ECHO arguments
gem	-run a GEM applications
grep	-search a file for a pattern
head	-gives first lines (header) of file
history	-print contents of history buffer
logout	-exit to GEM
lpr	-Line PRinter spooler
ls	-List Directory
mkdir	-MaKe Directory
more	-file perusal filter for crt viewing
mv	-MoVe or rename files
pr	-PRint file
pwd	-Print Working Directory
rm, rmdir	-ReMove (unlink) files
sed	-Strean EDitor
set	-SETs a variable to a value or string
tail	-show the TAIL-end of a file
tee	-provide a Tee junction in a pipeline
wc	-Word Count

% set prompt="Take off, EH?". You can customize the prompt to what you desire or need. The manual doesn't say how long the string can be. You could conceivably include descriptions of any commands that you're not familiar with in the prompt.

The history command allows you to view the commands you've used. You can even edit them and re-run the commands.

Pipeline offers the ability of sending output of one command to another command and even chain (ie. pipe) them together into a series.

Included on the disk is a readme file which augments the ver 2.0 update. It also provides suggested files setups for compiling (for both hard & floppy disks), and additional upgrade information.

I would not recommend Micro C-Shell for the casual Atari ST user. For the C programmer it does offer quite a range of develoipment aids with which to speed up your production time.

Beckemeyer Development Tools
592 Jean Street #304
Oakland, CA 94610
(415) 658-5318
(49.95$US + $5 Shipping & Handling)

HARDWARE MODIFICATIONS

Turning A Trakball Into A Mouse

Anonomous - per Ron Cork

I can't recall where this article came from, (some BBS somewhere), but because Dick Kellet did such a great job fixing mine, giving me a Super-Mouse as well as a trakball, it would be a shame not to published this information here. As will notice from the spelling and grammar, the originator is a yank, but we won't hold that against him. The only proviso I will add is that Dick, Mace and myself take no responsibility for the article or the data contained within. The text is relayed verbatim. Only the format has been altered to protect the editor and to fit the magazine.

****

Ok, here's the trakball info. The description of 'how it works when you buy it' is not rigourously correct, because I've mislaid my construction notes and feel I've been looking for them long enough. In particular, there's one chip unaccounted for. (As I recall, the chip I can't account for is only a necessary layer of buffering or inversion, not relevant to the description here.) Still, it will give the idea. Because I don't fancy trying to draw circuit diagrams on the terminal, most of this will be in prose. I will describe only half of the ciruitry in the 'history' bit, as the X circuit and the Y circuit are identical. The entire circuit is a 'cliche' which I recognize from my long-ago technician days, so I don't feel I'm revealing any proprietary secrets.

A) How it works now, first stage -- common to all modes.

The motion sensor is a dual set of 'photodiode/photosensor pairs', with a single squaretoothed wheel spinning in between. The spacing of the active elements and of the teeth is such that the two pulse trains generated are out of step. The pulse trains look like:

```
        xxxxx   xxxxx   xxxxx   xxxxx
(A)     x   x   x   x   x   x   x   x
        x   xxxxx   xxxxx   xxxxx   xxx

          xxxxx   xxxxx   xxxxx   xxxxx
(B)       x   x   x   x   x   x   x   x
        xxx   xxxxx   xxxxx   xxxxx   x
```

If the ball is spinning left, the (A) train leads in time. If right, the (B) train leads. The frequency of the pulse train depends on how fast the ball is moving. Each pulse train is fed thru a single-input Schmitt trigger to square up the pulses and to provide the degree of 'fanout' needed to drive the rest of the logic. (I surmise that the occasional mouse creep you see is due to the toothed wheel stopping so that it partially blocks one of the photodiode/sensor pairs right at the switching threshold. Then pure electronic randomness, or tiny mechanical motions -- such as by activating the disk drive sitting elsewhere on the table -- would cause a spurious pulse train in one channel.)

B) How it works now, second stage -- common to both 'old' modes.

The pulse trains are fed into a D-type edge-triggered latch -- one is fed in as the data input, the other as the clock input. If the clock pulse is ahead of the data pulse, the latch will latch in the 'off' mode; if the clock pulse is behind, the latch will latch in the 'on' mode. Thus the output of the D-latch gives a stable signal, (until you switch directions), which indicates whether the ball is moving to the left or to the right. The D-latch also provides a 'complemented output' in reverse logical sense to the primary output.

The output to the connector pins is selected, (depends how you've set the joystick/tablet switch), using a CMOS CD4019BE (allegedly the 4519 is compatible -- I mention it because you may want to buy one). This is most easily regarded as a 4-pole, 2-throw switch, under remote control of the physical switch mentioned earlier.

In 'joystick' mode, the primary and complemented outputs of the D-latch are switched onto the left-right pins of the connector, (pins 3 and 4). In 'tablet' mode, one of these pins is made to carry the primary output from the D-latch, (so giving direction), and the other is made to carry one of the pulse trains from stage 1 (giving speed).

C) How to change it -- the bit you've been waiting for.

PLEASE NOTE: I am describing what I did. I am not guaranteeing that you can do it. The operations required are not complex, but are fiddly. Don't blame me if you mess it up.

ALSO NOTE: (and I will say it again from time to time), all of the instructions which follow assume that you have NOT removed the circuit card from the base - so you are always meant to be looking at the BOTTOM, (non-component side), of the board, with the BACK, (side the connecting cord exits from), of the base nearest you.

What you need --

A new plug and cable, the one that comes with the trakball is one wire short, (you need 8 lines). I recommend, (but I didn't use), a Joystick Extension Lead from Tandy and cutting off one end, (make sure it is the correct end), so you'll have a, (smaller), moldedon plug. If you try to use a standard style loose connector, you'll probably have to butcher it to make it fit into the deep recessed socket on the ST, (why did you do that, Atari?).

A low-leakage low-power soldering iron -- it's all CMOS circuits.

3 resistors, 4.7K low wattage, (say .1 to .25 W). (1 needed if you don't want to retain tablet/joystick capability for your 8-bit).

If you are happy to make your trakball 'mouse-only', that's it.

If you want to retain the existing capabilities as well, then you will also need:

1 CD4019BE IC (the afore-mentioned '4-pole switch').

1 smallest-you-can-find miniature 2-pole 2-throw (DPDT) switch.

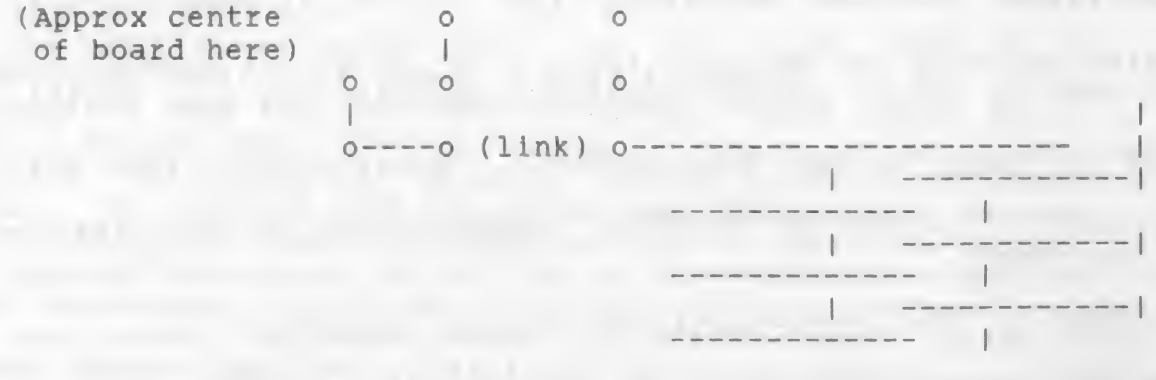
Some odd-bits of wire. Multi colours is nice, you can keep track of what you've done. The wires from inside the old cord will do fine. I recommend also a 16-pin socket for the chip, and a small piece, (~5x8 cm), of veroboard or general-purpose 'experimenter's breadboard', just to keep things neat.

Before you buy that:

Open your trakball. How? First turn it upside down. Work with it sitting on something, because when you unscrew the cover,the cover and ball will want to fall out. There are 4 screws, one hidden under each of the rubber feet, so you have to peel the feet off. Separate the lot, turn the base back over. My circuit board says A2010 Rev A. If yours doesn't, then this may not work. Pay careful attention to how you remove everything so you'll be able to put it back. It is possible to unmount the sensor miniboards and so look at the face of the main circuit, but don't bother. It's fiddly and probably not necessary.

Note where the cord enters the box. There are 7 clips attaching the wires to the PC board. Unclip these and, (somehow), make the cord come out of the box. This is the most fiddly bit. Pay careful attention, as the switch mounts in the same plate and may well come adrift -- if you're watching, it will be easier to puzzle it out when you put it back. Butchering the wires is ok. Butchering the box isn't. You may find you have to slide the plate containing the switch and cord hole up (it's detained by 2 little nubs on the inside of the case. If you do, the switch will definitely pop adrift. The 7 large rectangular pads to which the wires were clipped will appear again later. Holding the board with these tabs towards you, I will call them E-1, E-2, .. E-7 from left to right. E-1 is connected to the wide trace that runs all round the edge of the board, (ground). (On my board they are labelled, left-right, as GRA BLUE VIOLET BRN RED ORN YELLOW but it feels safer to invent my own number system in case this is not generally true.)

Set the base down with the back, (ex-cord side), towards you. (On the circuit board, the 2 square corners with the switch pads, will be towards you, and 2 cut-off corners away.) In the lower-right corner there is a switch pad,(looks like a set of meshed fingers). In the trakball the two switches are equivalent. We want a *2* switch 'mouse'. While there's room to work, look at this bit -- in the following, I've done PC traces (relevant ones only) with -- and |, solder pads (some irrelevant ones also for context) with o:



At the point marked '(link)', there is a wire link on the other side of the board. This is what connects the switches together, and it must be cut. Remember the solder pad on the right hand side of this link, (towards the switch matrix), because you'll have to make a connection to it later.

There are 4 IC's on the board. Since we're looking at the back of the board, you'll see the solder pads,which are sets of 2 parallel rows of 7, (14-pin ICs), or 8, (16-pin), little wodges of solder. The interesting set is the set in the upper-left hand corner (this is the hex Schmitt trigger, a 40105 in mine). Remembering that we are looking at it upside-down, the pads, (& IC pins) are numbered:

```
          xxxxxxxxxxxxEDGExOFxBOARDxxxxxxxx
        x   (Bunch of irrelevant PC tracks)
  CUT OFF x
  CORNER x   8   9  10  11  12  13  14
       x
     x     7   6   5   4   3   2   1
```

The buffered clock pulses that we want are on pins 10, 12, 2, & 4, (which I'll refer to now as St-10, St-12, St-2, and St-4 to save space).

Now I've introduced all the parts of the board with which we're concerned. I sugggest you make a sketch, using these notes and referring to your own board just in front of you, as it will make referring to things easier (and also ensure you've found the right places). Or, stick little sticky labels onto the board.

Winkle the new cord into the box, put back the switch and plate which have come loose. You'll need a fair bit of wires, (at least 8 inches), from the cord inside the box, so be generous. Sorry I can't give details on how to do this, but it's definitely the least fun part. Figure out some neat way to strain-relieve it, so you won't pull the connections loose if you yank the wire. Strip the outer cover from at least 8" of wire and separate the wires.

IF YOU ARE HAPPY WITH A MOUSE-ONLY TRAKBALL

The easy way out. Make the following connections, as listed, to the pins of the new plug. If you're lucky, the inner wires you're using will be properly colour-coded. If not, you'll have to trace them with a multimetre or something.

Plug pin number	Connects to
1	St-4
2	St-2
3	St-12
4	St-10
5	(No connection)
6	the pad connected to the 'fingers' switch
7	E-3 (+5v DC)
8	E-1 (Ground)
9	E-2

And, connect your 4.7K resistor pull-up between the pad connected to the fingers switch', and E-3.

Before closing the thing up, try it. (Remember we've been looking at it wrong-way-up so far, so we now get on the other side of it). Lay the ball in place, plug it in, move the ball, make sure the cursor goes the right way. Pins 1 and 2 (St-4/2) are up/down; 3 and 4 (St-10/12) are left/right. If it goes backwards, reverse the appropriate pairs. If it's happy, screw the cover back on and you're off. (But DO MAKE SURE to route the wires neatly somewhere where they will not interfere with the ball, or drift over either of the 'finger switch' arrays.)

IF YOU WANT A FULL-FEATURE TRAKBALL (mouse + joystick + tablet)

You masochist. Ok, let me introduce you to the CD4019BE. It is a 16-pin chip. If you are doing this, I hope you know how the pins are numbered, but just in case, orient the chip so that it is 'vertical', legs downwards, the short edge with the U-shaped notch in it away from you. The pins are then numbered from 1 through 8, (top to bottom), on the left side and from 9 thru 16, (BOTTOM TO TOP), on the right side. I will call them CD-1 through CD-16 in my wiring list. Be neat about the wiring. Use enough wire to avoid interfering with the ball and switch-pads. The new chip can be allowed to rest in the 'wing' of the case to the left of the circuit board, (near the Schmitt Trigger).

The final member of the cast of characters is the DPDT switch. Look at it from behind, so that the 6 terminals are facing you, in 2 horizontal rows of 3 terminals. I will refer to these as:

SW-1A SW-1B SW-1C

SW-2A SW-2B SW-2C

Figure out where you are going to put the switch (somewhere on the side that the Schmitt Trigger chip, (St), is on, I'd recommend, where the action is), butcher in the necessary mounting hole(s). It should be fairly out of the way so as to leave room for the chip et al. Don't mount it until it's been wired, though.

Again, I strongly recommend you turn this info into a sketch. Now the wiring list. I have done this 'a connection at a time', so in some cases you will find yourself connecting something to a place where you've already hung something else.

Be very careful not to leave solder bridges. Particular care is needed when connecting to the St-x pads, because they are small & close together. Also, take care not to use any more heat than required in making the connections to St, (and CD, if you haven't bought a socket).

"Well, there's *your* problem."

Connect	to
CD-1	St-10
CD-2	E-6
CD-3	St-12
CD-4	E-5
CD-5	St-2
CD-6	E-4
CD-7	St-4
CD-8	E-1 (ground)
CD-9	SW-1C
CD-10	Plug pin 1
CD-11	Plug pin 2
CD-12	Plug pin 3
CD-13	Plug pin 4
CD-14	SW-1A
CD-15	E-7
CD-16	E-3 (+5vDC)

Hook a 4.7K resistor between CD-9 and CD-16, (or any other handy source of the +5v). Hook a 4.7K resistor between CD-14 and CD-16, (ditto, again, etc).

SW-1B	E-1 (or any other handy ground point)
SW-2A	E-2
SW-2B	The pad on the 'finger switch' mentioned above, where you cut the wire link.
SW-2C	Plug pin 6

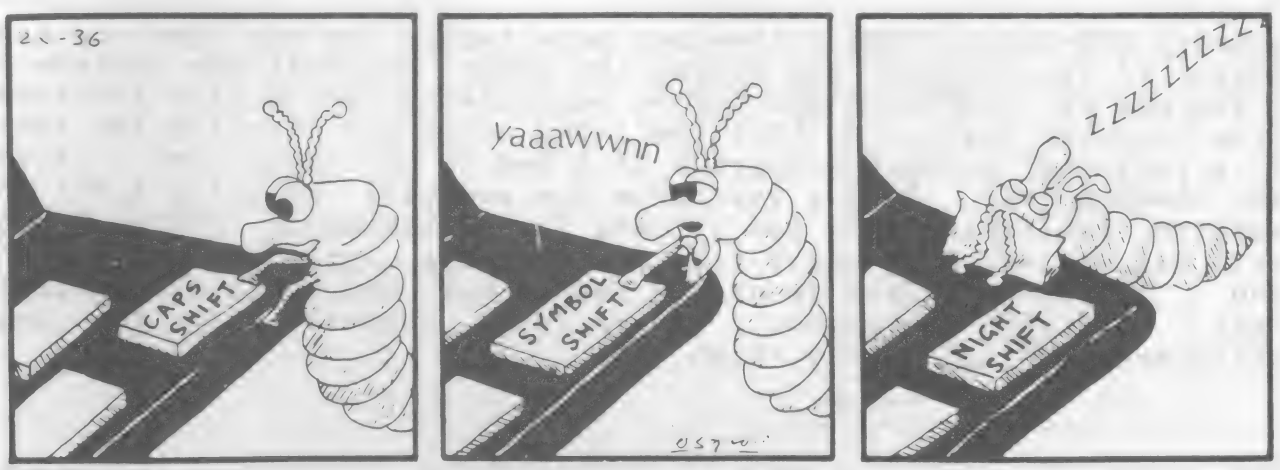
Hook the last 4.7K resistor between SW-2C and a convenient source of +5v, e.g. E-3.

E-2	Plug pin 9
E-1	Plug pin 8 (ground)
E-3	Plug pin 7 (+5vDC)

That is exactly what I did to mine. Push the wires neatly out of the way, test, and put it back together again. In one position of the new switch, the trakball now looks like a mouse, and the other switch has no effect. In the other position of the new switch, the old switch selects between joystick and tablet operation.

Good luck

. . . taking careful note of the shift keys.



REVIEW

A REVIEW OF THE LIGHTSPEED 520ST RAM UPGRADE PACK

Computer Oasis in Cottesloe, Western Australia offers a 520K memory upgrade for the Atari 520ST. There's nothing unusual about that; what's unusual is that the upgrade is a plug-in-and-run board that fits under the RF shield. No component changes, no trace cuts, no solder (no solder burns).

The LIGHTSPEED 520ST RAM unit attaches to the buffer chips and plugs into the MMU (Memory Management Unit) socket, which is the large square socket near the centre of the 520ST's board, top side. This is accomplished without evicting the MMU, because the socket is designed to permit such additions; the pins and contact are on the sides, not the bottom, of the MMU and the upgrade plug insinuates its pins precisely between the MMU contacts and those of the socket - if everything is aligned correctly and you don't bend any pins.

I can report that I had no difficulty whatever with the installation. As recommended I strapped a grounded cuff to my wrist and went right to work. The entire job took me about ten minutes, from reading the installation instructions to re-closing the case.

You can certainly do an upgrade cheaper if you buy your own chips and piggyback, but you have to decide what your time is worth. Ninety percent of the up-graders I know spent several days after insallatuion, just debugging their equipment - finding poor connections and re-soldering. If you're not highly skilled then the Lightspeed 520 ST RAM Upgrade is the way to go. The unit looks well designed electrically and mechanically.

Now the habituating part :- Computer Oasis is offering additional memory upgrades all the way to 2.5 and 4 Meg. So you'll insert your firsthalf meg and then you start thinking "That was so easy, and it wouldn't be any harder to add just a little more".

You think you won't become addicted? Then consider this: The board I installed can be upgraded to 2.5 and 4 Meg at any time, simply by replacing its 256K chips with 1 Meg chips and moving a few jumpers.

Today's 256-kilobit Ram prices may have fallen by the time you read this. If you feel you can source the chips yourself the upgrade to 1 Meg may be cheaper if you buy an unpopulated board also available from Computer Oasis. Now that the 1 Meg chips are entering the scene at a realistic price the upgrade to 4 Meg is no longer just a dream. Who needs 4 Meg? Well a year from now you will be doing a bit of desktop publishing,and you'll long for a humongous RAM DISK that will let you scroll rapidly from the top of a large document to the end. Your hard drive is pretty fast, but you don't want pretty fast, you want right now! There is no question that for real efficiency RAM is the way to go.

And now for the prices:

unpopulated board	$289
1 MEG upgrade	$329
2.5 MEG upgrade	P.O.A.
4 MEG upgrade	P.O.A.

For further information contact :

Computer Oasis
Suite 37 Grove Plaza,
406 Stirling Highway
Cottesloe W.A. 6011
Phone : (09) 385 1765

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Dear Teacher:

Please excuse Joe from school yesterday. He had diarrhoerea through a hole in his shoe.

THUNDER REVIEW. SPELLING CHECKER

by Mark Perreira
from FirST Sept. '86

There is an old adage that goes something like this, 'Where there is lightning there is thunder.' It is from this that Batteries Included got the name for one of their first products on the ST. THUNDER! on the ST is a word speller that is very much like Turbo Lighting by Borland. The only question is can lighting strike in the same place twice? In this case, yes! THUNDER! is one of the best spellers I have seen in a long time. With all the word processors for the ST, THUNDER! is a much needed writing tool. The currently available spellers out on the market now (Hippo Spell, Regent Spell, and soon Haba spell), are all stand alone programs that have trouble with different word processing formats. Also, none of these spellers are real-time like Borlands Turbo Lightning, a speller for the IBM that can check spelling on the fly.

Well, I recently picked up a copy of THUNDER! by Batteries Included and it is a dream as far as word spellers. It does not have any of the problems of the current spellers and even has advanced features not found in any speller on the ST or many other computers for that matter. If THUNDER! is any indication of the type of applications that Batteries Included intends to write for the ST, then prepare yourself for a full-featured, useful, well-priced, easy-to-use applications.

FEATURES

THUNDER! is advertised as a real-time word speller. This means that it can correct words while you are typing. If you type a word that it cannot find in its dictionary, it beeps acknowledging that it does not know of this word's existence. You can use THUNDER! to show alternative words or you can choose to ignore THUNDER!'s beep and trust your own knowledge of the English language (not a good thing to do in most cases). How does THUNDER! know what you are typing while using something like First Word? Easy, it is a desk accessory and keeps track of the characters you type; and, as soon as you hit the space bar or the return key it immediately compares the word with its dictionary and decides whether it is a valid word or not. THUNDER! comes with three dictionaries (MAIN.DIC, SUPP.DIC and LEARN.DIC). The main dictionary holds 50,000 words that it knows. If that seems like a lot of words, it is.

So far, THUNDER! is the most complete speller available for the ST. The "SUPP" dictionary is the supplemental dictionary that you can build on your own. It can hold commonly used words that the normal dictionary does not hold. The "EXPAND" or "LEARN" dictionary hold words that you would like the speller to replace for you whenever it comes across a certain word or string. For example, let's say that you would like to type the 'COAST' and have the speller replace that with 'CALIFORNIA ORIGINAL ATARI SIXTEEN THIRTY TWO.' You would add 'COAST' and its exoanded form to the 'EXPAND' dictionary. Whenever you type the word 'COAST' it will automatically change it to its expanded form on-screen right in front of your eyes. You're probably saying to yourself 'this is all well and good, but what if I use ST Writer or another non-GEM word processor?' Batteries Included has also included a stand alone version of their speller that you can run on any text file and get the same results.

It will show you the file name, the word in context, and its alternatives. The stand-alone version of THUNDER! adds many more features that the accessory version does not have. For example, the stand-alone will give you statistics about your file including: total number of words, total number of syllables, number of words with more that three syllables, percentage of words with more than three syllables, total number of sentences, total number of paragraphs, Gunning Fog Index, Flesch's Index, and much more. The Gunning Fog Index and the Flesch's Index are the evaluations of the readability of your document. You'll be happy to know that the newsletter is written for an average seventh grade student.

PERFORMANCE

THUNDER! is a very fast and compact spell checker. The 'MAIN' dictionary that contains 50,000 words is squeezed into a file that is about 80 kilobytes. I even did an experiment taking the dictionary and squeezing it further with the squeeze utility floating around the public domain. After I 'squeezed' it, the file became larger in size by one percent! This should tell you that the file is pretty well squeezed on its own. As far as speed, it is a real-time speller that can easily keep up with the fastest typist. As far as the stand-alone version is concerned, the documentation lists the speeds shown in figure 1.1 for it. The chart shows a file that was spell checked on different storage media.

USABILITY

THUNDER! is one of the most usable programs to come along for the ST in a while. If you are the type of person who plays Time Bandits or Rogue all the time, then this may not be for you. However, if you use your ST for anything that requires you to be typing in information, it may very well be one of the best tools you can buy. Example: you don't like having to pick up the mouse, pull down the desk menu and click on THUNDER! to see what you have spelled wrong after a beep.

THUNDER! allows you to use the ALT key in combination with another key to accomplish the same function. Another example: the computer indicates there is not enough memory to run a program because THUNDER! and its dictionaries are resident. Is it reboot time? Solution: no, use ALT-K and THUNDER! and all of its dictionaries will be killed, freeing up memory for other applications.

Batteries Included has covered all the angles on this product. It is almost a perfect product, but I did find I had some complaints about THUNDER! For one, the 'MAIN' dictionary allows you to add words, but it does not allow to delete them. If you add a word to the 'MAIN' dictionary, you had better make sure it is right, otherwise you will have a corrupt dictionary. You can add and delete words to the 'SUPP' and 'LEARN' dictionaries, but in order to delete them you must use a word processor and edit the dictionaries as if they are text files. This is not too bad, but it is a wee bit unprofessional to require a different product to make yours work. Since THUNDER! is such a wonderful speller, though, I can turn my cheek and look the other direction from these faults. In the documentation, it says that they will be continually updating the product. I hope that in future version they will iron out these faults and make THUNDER! the best speller on any computer.

THUNDER! is also not copy-protected. Batteries Included has decided to go the route of the honor system. This makes this product even more attractive since you can copy it to your hard disk, or to your boot disk. I would not have blamed Batteries Included for protecting such a program like THUNDER!, but I am very pleased that they did not and would like to ask people to respect their rights and not pirate the program.

DOCUMENTATION

I would like to compliment Ian Chadwick and the other people at Batteries Included that put together the manual. It is a wonderful manual that describes the simplest things like what a disk accessory is to how the speller calculates Gunning's Fog Index and Flesch's Index. The 53 page manual is very well written with illustrations and examples.

OVERALL

THUNDER! is one of those rare products that does exactly what it says it does, has good documentation, good support from the company, and is reasonably priced. I have no choice but to give it a five for an overall score. Batteries Included is the first company to come out with a real-time speller and will probably be the only one for a while to come. They could have made a far less superior product and the Atari Community at-large, would have thought it to be a 'good' program. Instead, Batteries Included went far beyond that and came out with a unique and very complete product for the ST. I deeply respect Batteries Included for their effort on THUNDER! Again, as usual, this program demonstrates 'Power without the Price.'

Rob Neate and family at the BBQ in Neerim Junction, Gippsland in June.

CONTRIBUTIONS

The Tablet Typist.
by Mathew J.W.Ratcliff
Analog Computing No.51 February 87.
Reviewed by John Rooke

After finishing your latest masterpiece with your Micro Painter ,Koala Pad or your Atari Artist ,it would be nice to finish it off with some text. Now you can with The Tablet Typist.

The Typist will load an "uncompacted"picture file and allow you to type in either of two font sizes on the picture.The programme supports custom character sets,letting you label your picture in many different fonts on a single line display.

I have different fonts (with the extender .SET)on the same disk as the Tablet and by pressing Control F a directory of all the fonts will be displayed from drive 1.

If you have a favorite character set,put it with the name D:CHARR.SET.When run, the programme will look for a character set file by this name and install it for the edit mode.Since you are editing a graphics screen,the display doesn't change when fonts are changed.
Change colors: First type the next character(not a space),press Control C and the color changes.You have 3 colors,for the small font and 15 for the large font.Keep pressing Ctrl-C for the color you wish.

The default font size is 1 Ctrl-A.Press Ctrl-Z for the large one which is 'double width'.The USR routine for the larger characters rounds off to the nearest 'byte boundry" [4 pixel resolution]. Keep this in mind when using the large font,and use the backup/restore facility to best advantage.

Press Ctrl-B to make a backup.When you plan something different use Ctrl-B first and if you don't like the result use Ctrl-R and the screen will be restored.
Ctrl-H Help takes you back to the Menu.

Both Ctrl-H and Ctrl-F commands exit the edit mode to display a menu.Before this is done,a backup is executed automatically.

Once in the edit mode ,press Ctrl-L to load D:PICTURE.The Typist will beep once to remind you to get the disk ready.Press RETURN to load.Any other keypress will abort.

Ctrl-S to save.A double beep will sound.RETURN to execute ,or any other key to abort.

Press the Logo key and use inverse characters.The BACKSPACE key to remove errors.To jump characters,use Ctrl-ARROW key.The INSERT and DELETE function are not supported.When typing ,RETURN will take you to the beginning of the next line.

You can use the Joystick in port 2 to move the flashing cursor.It starts slowly and speeds up as you hold the stick.This allows for fine positioning and fast moves across the screen.Yes I said port 2 as the MI assumes that your tablet is in port 1.

You can use any control graphics character,if it is one of the reserved letter for commands then press ESC first.

There are two listings to the Tablet.
Listing 1 is saved on a new Dos disk as "D:TABLETYP.BAS".

Listing 2 will write a file to the disk with TABLETYP.BAS under the name D:TYPE.SYS.

It is advisiable to keep copies of these two programs .

I found that the TABLET TYPIST is an excellent program and very easy to use.

Remember that the picture must be 'uncompacted' and with the name D:PICTURE.

If you'r using the TYPIST for your displays,while recording on the VCR ,press CAPS key to disable the flashing cursor,when ready to continue editing,just press RETURN.

TABLETYP.BAS PROGRAM

```
20 GOSUB 1670
30 CLOSE #C1:OPEN #C1,C4,C0,"K:":GOTO
330
40 A=USR(ADR(MOV$),ADR(PIC$),SCR,SCL):
RETURN :REM RESTORE
50 A=USR(ADR(MOV$),SCR,ADR(PIC$),SCL):
RETURN :REM BACKUP
60 FOR W=15 TO C0 STEP -C1
70 SOUND C0,40,C10,W:SOUND C1,42,C10,W

80 NEXT W
90 SOUND C0,C0,C0,C0:SOUND C1,C0,C0,C0

100 POKE C16,64:POKE 53774,64:FOR W=C1
 TO 40:NEXT W
110 IF PEEK(CH)<>C255 THEN POKE CH,C25
5:GOTO 100
120 RETURN
130 IO=IO*C16:IOCB=832+IO:POKE IOCB+C2
,CMND
140 ADH=INT(AD/C256):ADL=AD-C256*ADH
150 NMH=INT(NM/C256):NML=NM-C256*NMH
160 POKE IOCB+C4,ADL:POKE IOCB+C5,ADH
170 POKE IOCB+C8,NML:POKE IOCB+C9,NMH
180 I=USR(ADR("hhh[LV[]"),IO):ERR=PEEK(
IOCB+C3)
190 POKE 195,ERR:RETURN
200 A=PEEK(560)+256*PEEK(561)
210 SOUND C0,181,12,C5:SOUND C1,185,12
,C5
220 POKE A+C3,78
230 FOR I=A+C6 TO A+98:POKE I,14:NEXT
I
240 POKE A+99,78
250 FOR I=A+102 TO A+198:POKE I,14:NEX
T I
260 SOUND C0,C0,C0,C0:SOUND C1,C0,C0,C
0
270 SCMD=C1:RETURN
280 XD=PEEK(XC)+C256*PEEK(XC+C1):YD=PE
EK(YC):RETURN
290 GOSUB 60:A=A-C1:IF A<>C0 THEN 290
300 A=PEEK(CH):IF A=C255 THEN 300
310 IF A=154 THEN GOSUB 60:GOTO 300
320 GET #C1,A:RETURN
330 GOSUB 340:GOTO 560
340 GRAPHICS C0:POKE 752,C1
350 ? "** Tablet Typist By Mat*Rat **"

360 ? :? "This utility will load a fil
e"
370 ? "created by KOALA/ATARI Touch ta
blets"
380 ? "(saved with 'greater-than' keyp
ress)":? "and all Micro Illustrator fi
les."
390 ? "Filename D:PICTURE always used.
"
400 ? "_____
_____"
410 ? :? "Use the Joystick-2 or contro
l-"
420 ? "arrow keys to move cursor."
430 ? "Type any letters at cursor."
440 ? "Use the control key commands:"
450 ? "^L - Load D:PICTURE (beep promp
t)"
460 ? "^S - Save D:PICTURE (double bee
p)"
470 ? "^B - Backup current screen"
480 ? "^R - Restore screen"
490 ? "^A - Font size 1, small"
500 ? "^Z - Font size 2, big"
510 ? "^F - Custom Font control"
520 ? "^C - Change color of last char
typed"
530 ? "^H - Help, This Menu"
540 ? :? "[RETURN] to BEGIN";
550 A=C1:GOSUB 290:RETURN
560 GRAPHICS 24:SCMD=C0:ACC=C1:REM SCR
EEN MOD FLAG,ACCELERATION FLAG
570 CTY=C256:CCT=C1:POKE 710,C0
580 POKE 709,202:POKE 711,48:POKE 712,
0:POKE 708,70:POKE 710,148
590 IF PCFL THEN GOSUB 60:GOSUB 40:GOS
UB 200
600 A=PEEK(560)+256*PEEK(561):SCR=PEEK
(A+C4)+C256*PEEK(A+C5):POKE 756,CCS
610 POSITION XD,YD
620 LOCATE XD,YD,A
630 COLOR C1:PLOT XD,YD
640 COLOR C2:PLOT XD,YD
650 COLOR C3:PLOT XD,YD
660 COLOR A:PLOT XD,YD
670 S=STICK(C1):IF S<>15 THEN POKE 77,
C0
680 DX=(S=C5 OR S=C6 OR S=C7)-(S=C9 OR
 S=C10 OR S=11)
690 DY=(S=C5 OR S=C9 OR S=13)-(S=C6 OR
 S=C10 OR S=14)
700 IF DX+DY=C0 THEN 770
710 XD=XD+ACC*DX:IF XD<C0 THEN XD=319
720 IF XD>319 THEN XD=C0
730 YD=YD+ACC*DY:IF YD<C0 THEN YD=191
740 IF YD>191 THEN YD=C0
750 ACC=ACC+C1:IF ACC>C16 THEN ACC=C16
:REM CURSOR ACCELLERATION
760 GOTO 610
770 ACC=C1
780 A=PEEK(CH):IF A=C255 THEN 610
790 IF A=154 THEN GOSUB 60:GOTO 610:RE
M DISALLOW ^3, KEY-EOF
800 GET #C1,A:IF A=27 THEN A=C1:GOSUB
290:GOTO 1450
810 IF A=155 THEN XD=C0:DY=C8:OYD=YD:G
OTO 730
```

```
820 IF A)=32 THEN 1450:REM TYPE NOW
830 IF A=28 THEN DY=-C8:OYD=YD:GOTO 73
0:REM ^ARROW KEYS
840 IF A=29 THEN DY=C8:OYD=YD:GOTO 730

850 IF A=30 THEN DX=-C16*FNT:DY=C0:OXD
=(OXD+DX)*(XD)15):GOTO 710
860 IF A=31 THEN DX=C16*FNT:DY=C0:OXD=
XD:GOTO 710
870 IF A=26 THEN FNT=C2:GOSUB 60:GOTO
610:REM ^A, FONT SIZE #1
880 IF A=C1 THEN FNT=C1:GOSUB 60:GOTO
610:REM ^Z, FONT SIZE #2
890 IF A<>12 THEN 980:REM ^LOAD
900 A=C1:GOSUB 290:IF A=155 THEN 920
910 GOTO 610:REM NOT RETURN, ABORT
920 FLT=C4:GOSUB 1590
930 IO=C2:AD=ADR(PIC$):NM=SCL:CMND=CGE
T
940 GOSUB 130:IF ERR=C3 THEN 960
950 GOSUB 1620
960 GOSUB 40:IF  NOT SCMD THEN GOSUB 2
00
970 PCFL=C1:GOTO 610
980 IF A<>19 THEN 1040:REM ^SAVE
990 A=C2:GOSUB 290:IF A<>155 THEN GOTO
 610
1000 FLT=C8:GOSUB 1590
1010 IO=C2:AD=SCR:NM=SCL:CMND=CPUT
1020 GOSUB 130:IF ERR)127 THEN GOSUB 1
620
1030 CLOSE #C2:GOTO 610
1040 IF A<>C2 THEN 1060:REM ^BACKUP
1050 GOSUB 50:GOSUB 60:GOTO 610
1060 IF A<>18 THEN 1080:REM ^RESTORE
1070 GOSUB 40:GOSUB 60:GOTO 610
1080 IF A<>C6 THEN 1360:REM ^FONT
1090 GOSUB 50:GOSUB 280:GRAPHICS C0
1100 CLOSE #C2:TRAP 1150
1110 OPEN #C2,C6,C0,"D:*.SET":? "** Ch
aracter Set Directory **":I=C1
1120 INPUT #C2,B$:? B$;:IF INT(I/C2)=I
/C2 THEN ? :GOTO 1140
1130 ? "|";
1140 I=I+C1:GOTO 1120
1150 CLOSE #C2:POKE 702,64:POKE 694,C0
:REM UPPER CASE,NORM VID
1160 ? :? "Atari Font Enable"
1170 ? "Load & Enable new Font"
1180 IF CST$<>"" THEN ? "Re-Enable ";C
ST$
1190 A=C1:GOSUB 290
1200 IF A=65 THEN CCS=CS0:GOTO 560:REM
 ATARI SET
1210 IF CST$<>"" THEN IF A=82 THEN CCS
=CSN:GOTO 560:REM RE-ENABLE
1220 IF A<>76 THEN 1190:REM LOAD NEW S
ET
1230 ? "(RETURN only for another DIR)"
1240 ? "Set Name Only (no DEV or EXT):
":INPUT B$
1250 IF B$="" THEN 1100
1260 D$="D1:":D$(C4)=B$:D$(LEN(D$)+C1)
=".SET"
1270 ? "Load Font file: ";D$
1280 CLOSE #C2:TRAP 1290:OPEN #C2,C4,C
0,D$:GOTO 1320
1290 ? "* I/O Error ";PEEK(195)
1300 ? "Press RETURN ";:A=C1:GOSUB 290

1310 CLOSE #C2:CCS=CS0:GOTO 560
1320 CST$=D$
1330 IO=C2:AD=CSN*C256:NM=1024:CMND=CG
ET
1340 GOSUB 130:IF ERR<>C3 THEN CST$=""
:? "* Bad Font File *":GOTO 1300
1350 CCS=CSN:GOTO 560
1360 IF A<>C3 THEN 1420:REM ^COLOR
1370 CCT=CCT+C1:IF CCT)15 THEN CCT=C1
1380 IF FNT=C1 THEN IF CCT)C4 THEN CCT
=C1
1390 IF CTY=C256 THEN GOSUB 60:GOTO 61
0
1400 XD=OXD:YD=OYD
1410 A=CTY:GOTO 1450
1420 IF A<>C8 THEN 1450:REM ^HELP
1430 GOSUB 50:REM BACKUP FIRST
1440 GOSUB 280:GOSUB 340:GOTO 560
1450 CF=C0:IF A<>126 THEN 1480
1460 CF=C1:A=32
1470 XD=OXD:YD=OYD
1480 B$=CHR$(A):CTY=A:IF  NOT SCMD THE
N GOSUB 200:A=CTY:PCFL=C1
1490 ON FNT GOTO 1500,1510
1500 A=USR(ADR(C$),A,CCT,XD/C2,YD):GOT
O 1520
1510 A=USR(ADR(A$),ADR(B$),CCT,C1,YD,X
D)
1520 OXD=XD:OYD=YD
1530 XD=XD+C16*FNT:IF XD)311 THEN XD=C
0:YD=YD+C8:IF YD)183 THEN YD=C0
1540 IF  NOT CF THEN 1560
1550 XD=OXD:YD=OYD
1560 OXD=OXD-C16*FNT
1570 IF OXD<C0 THEN OXD=C0:OYD=OYD-C8:
IF OYD<C0 THEN OYD=C0
1580 GOTO 610
1590 TRAP 1620
1600 CLOSE #C2:OPEN #C2,FLT,C0,"D:PICT
URE"
1610 RETURN
1620 GOSUB 280:GRAPHICS C0:PCFL=C0
1630 ? "* I/O ERROR ";PEEK(195);" *"
1640 ? "Press RETURN ";:POP
1650 A=C3:GOSUB 290:CLOSE #C2
1660 GOTO 330
1670 C0=0:C1=1:C2=2:C3=3:C4=4:C5=5:C6=
6:C7=7:C8=8:C9=9:C10=10:C255=255
```

```
1680 XC=85:YC=84:XD=C0:YD=C0:CGET=C7:C
PUT=11:C256=256:SCL=7680:C16=16
1690 DIM CST$(20),A$(410),B$(45),C$(35
4),D$(40),PIC$(SCL),MOV$(76)
1700 CSN=PEEK(106)-C16:POKE 106,CSN:GR
APHICS C0:? "Initializing TABLET TYPIS
T SYS file."
1710 PIC$(C1)=" ":PIC$(SCL)=" ":PIC$(C
2)=PIC$:LOD=C0
1720 CSO=PEEK(756):CCS=CSO:CST$=""
1730 TRAP 1760:CLOSE #C2:OPEN #C2,C4,C
0,"D:CHAR.SET"
1740 IO=C2:AD=C256*CSN:NM=1024:CMND=CG
ET:GOSUB 130:IF ERR()C1 THEN 1760
1750 CST$="D:CHAR.SET":CCS=CSN
1760 A$(C1)=" ":A$(410)=" ":A$(C2)=A$
1770 C$(C1)=" ":C$(354)=" ":C$(C2)=C$
1780 MOV$(C1)=" ":MOV$(76)=" ":MOV$(C2
)=MOV$
1790 CLOSE #C2:TRAP 1800:OPEN #C2,C4,C
0,"D:TYPE.SYS":GOTO 1810
1800 POKE 106,160:GRAPHICS C0:? "NO TY
PE.SYS FILE!":END
1810 IO=C2:AD=ADR(A$):NM=410:CMND=CGET
:GOSUB 130:IF ERR()C1 THEN 1800
1820 IO=C2:AD=ADR(C$):NM=354:CMND=CGET
:GOSUB 130:IF ERR()C1 THEN 1800
1830 IO=C2:AD=ADR(MOV$):NM=76:CMND=CGE
T:GOSUB 130:IF ERR()C3 THEN 1800
1840 PCFL=C0:CH=764:FMT=C1
1850 RESTORE 1860:FOR I=C0 TO 21:READ
X:POKE 1536+I,X:NEXT I:GOTO 1870
1860 DATA 169,0,133,212,162,8,70,186,1
44,3,24,101,187,106,102,212,202,208,24
3,133,213,96
1870 RETURN
1880 RESTORE 1860:FOR I=C0 TO 21:READ
X:POKE 1536+I,X:NEXT I:GOTO 1870
```

TYPO FOR TABLETYP.BAS

```
RY 20    PB 30    GZ 40    SZ 50    QQ 60    DS 70    NS 80    EY 90
RL 100   WD 110   ZB 120   JZ 130   CI 140   KT 150   UF 160   VJ 170
RU 180   PZ 190   MZ 200   MI 210   FW 220   NO 230   EK 240   VL 250
OK 260   CQ 270   SU 280   SZ 290   XR 300   KR 310   YL 320   IH 330
IT 340   RD 350   BV 360   CK 370   CQ 380   XN 390   YR 400   BM 410
YI 420   LY 430   YW 440   OE 450   NF 460   LR 470   XB 480   DL 490
JY 500   VU 510   UI 520   JS 530   ID 540   TI 550   XT 560   TC 570
RG 580   FS 590   IJ 600   OH 610   FS 620   LG 630   LU 640   MI 650
KO 660   WB 670   ZA 680   GP 690   LJ 700   YH 710   KS 720   YP 730
KU 740   FB 750   OH 760   TQ 770   DG 780   ID 790   WL 800   YS 810
JE 820   IU 830   SG 840   NA 850   IQ 860   MC 870   MG 880   ZD 890
AM 900   UB 910   TL 920   VN 930   AO 940   UU 950   MI 960   WN 970
BA 980   ZU 990   TG 1000  KO 1010  DY 1020  DM 1030  GI 1040  TO 1050
RR 1060  TI 1070  UQ 1080  FP 1090  TL 1100  HP 1110  VY 1120  JR 1130
SC 1140  RJ 1150  JF 1160  ZT 1170  QK 1180  TW 1190  OJ 1200  OD 1210
BS 1220  YB 1230  EO 1240  MZ 1250  HO 1260  QU 1270  JS 1280  QA 1290
HX 1300  MO 1310  OC 1320  ZO 1330  IF 1340  NW 1350  HN 1360  BU 1370
IE 1380  CU 1390  BH 1400  XL 1410  EB 1420  WB 1430  HG 1440  ZT 1450
CD 1460  CC 1470  WG 1480  UQ 1490  ZK 1500  DX 1510  AC 1520  XW 1530
VS 1540  BY 1550  GI 1560  YX 1570  QP 1580  QB 1590  PC 1600  AO 1610
NW 1620  IS 1630  HA 1640  UQ 1650  QC 1660  PK 1670  LK 1680  IL 1690
YF 1700  HC 1710  DY 1720  YU 1730  NO 1740  WF 1750  WM 1760  JF 1770
UW 1780  NL 1790  AY 1800  XM 1810  GN 1820  YZ 1830  ST 1840  JK 1850
BC 1860  BK 1870  JT 1880
```

```
10 GRAPHICS 8:COLOR 1
20 FOR A=0 TO 319 STEP 3
30 PLOT 0,159:DRAWTO A,0
40 PLOT 319,0:DRAWTO 319-A,159
50 NEXT A
```

LISTING2 PROGRAM

```
1 REM Tablet Typist SYS file Loader
2 REM By Matthew J. W. Ratcliff
3 REM ANALOG COMPUTING NO.51 FEBRUARY
87
4 REM RE TYPED by HONEST JOHN
10 DATA 0,1,2,3,4,5,6,7,8,9,0,0,0,0,0,
0,0,10,11,12,13,14,15
20 DIM D$(90),HEX(22):RESTORE 32000
30 READ LASTLIN,LNLST:RESTORE 10
40 FOR I=0 TO 22:READ A:HEX(I)=A:NEXT
I
50 LINE=990:RESTORE 1000:PASS=0:DONE=0

60 GRAPHICS 0:POKE 752,1:? "CHECKING D
ATA:"
70 LINE=LINE+10:LN=80:IF LINE=LASTLIN
THEN LN=LNLST:DONE=1
80 POSITION 2,4:? "LINE ";LINE
90 READ D$:IF LEN(D$)<>LN THEN 500
100 DL=PEEK(183)+256*PEEK(184):IF DL<>
LINE THEN ? "LINE ";LINE;" MISSING":
END
110 FOR X=1 TO LN-1 STEP 2:D1=ASC(D$(X
,X))-48:D2=ASC(D$(X+1,X+1))-48:B=HEX(D
1)*16+HEX(D2)
120 SUM=SUM+B:IF SUM>999 THEN SUM=SUM-
1000
130 IF PASS THEN PUT #1,B
140 NEXT X
150 READ CK:IF CK<>SUM THEN 510
160 IF  NOT DONE THEN 70
170 IF PASS THEN 210
180 PASS=PASS+1:TRAP 600:CLOSE #1
190 ? "DATA GOOD!":? "PRESS  RETURN
 WHEN Tablet Typist":? "DISK READY ";:I
NPUT D$:DONE=0
200 SUM=0:RESTORE 1000:LINE=990:OPEN #
1,8,0,"D1:TYPE.SYS":POSITION 2,0:? "WR
ITING DATA   ":GOTO 70
210 CLOSE #1:? "* ALL DONE *":? "WAR
NING: Be Sure to SAVE this loader"
220 ? "as a backup, just in case!":GOT
O 520
500 ? "DATA LENGTH ERROR IN LINE ";L
INE:GOTO 520
510 ? "CHECKSUM ERROR IN LINE ";LINE

520 POKE 752,0:? :END
600 ? "I/O ERROR ";PEEK(195);" AT LI
NE ";PEEK(186)+256*PEEK(187):GOTO 520
1000 DATA A5C885DFA90185DEA55485E5A555
85E3A55685E4A657A90AE0059008A914E00790
02A92885EF68F0,383
1010 DATA 30AA6885D56885D4CAF031686885
DFCAF02A686885DECAF023686885E5CAF01668
85E46885E3CAF0,484
1020 DATA 136868CAD0FB18900BA9FD4CA4F6
A90085E385E4A5E585E9A5EF85ECA90085E6A2
080A26E606E990,245
1030 DATA 071865EC9002E6E6CAD0EF85E5A5
5885D8A55985D9A5E51865D885D8A5E665D985
D9A201A557C909,208
1040 DATA B007A2024AB002A203A5E365E4F0
1946E466E3CAF00546E3CAD0FBE6E918A5E365
D885D89002E6D9,128
1050 DATA A5D885E0A5D985E1A90085E2A200
A90095DAE8A5DF95DA0A0A0A0AE895DA05DBE8
95DAA4E2B1D4A2,222
1060 DATA 0086EAC9009004297FC6EAAA85EC
E860B00DA940E0209002A9E01865EC85ECA900
85E9A90085D7A2,695
1070 DATA 080A26D706E99007186SEC9002E6
D7CAD0EF85D618ADF402C5D785D7A00084EBA0
0884EE18900318,671
1080 DATA 98A9A4EBB1D6E6EB45EA85E8A900
85EDA90485E7A90085E9A00286E826E988D0F9
A6E9B5DAA4ED91,126
1090 DATA D8E6EDC6E7D0E518A5D865EF85D8
9002E6D9C6EED0C4C6DED00160E6E218A5E069
0485E09002E6E1,863
1100 DATA 85D8A5E185D91890A66068F00AC9
84F00DAA6860CAD0FBA91685B94C40B96885C3
68C9009004297F,248
1110 DATA C6C3AA8D1606E060B00FA940E020
9002A9E0186D1606D160668688D1706686888D
1806C904900538,16
1120 DATA E904B0F785D6C900F007A9043E5
D685D64E18064E18060D61868688D190685BA
A657A90AE003F0,548
1130 DATA 08A914E005F002A92885CF85BBA5
5885CBA55985CC20000618AD180665CB85CB90
02E6CC18A5CB65,243
1140 DATA D485CBA5CC65D585CCAD160685BB
A90885BA20000A5D485CDADF40265D585CEA0
00A208A90085D1,494
1150 DATA 85D0B1CD45C348680A4890018AD
170585D085D0E001F00306D026D1H6D0Z6D1CA
D0E46898480A000,192
1160 DATA 84D784D4A6D6F0583826D7CAD0FA
B1CB05D745D791CBA5D749FF85D7C8C8B1CB05
D745D791CBA6D6,860
1170 DATA 06D126D4CAD0F9A00018B1CB65D4
91CBA90838E5D6AA84D446D066D4CAD0F9F002
D087A00218B1CB,801
1180 DATA 65D491CB18A5D065D1A00191CB18
9009A5D191CBC8A5D091CB68A818A5CB65CF85
CB9002E6CCC8C8,778
1190 DATA 88D0CE6868F00AC903F007AA6868
CAD0FB6006885D56885D46885D76885D66885D9
6885D8A6D8CAE0,753
1200 DATA FFD00E86D8A6D9D00160CA86D9A0
00F00286D8A000B1D491D6E6D4D002E6D5E6D6
D0D9E6D7D0D560,407
32000 DATA 1200,80
```

TYPO FOR COLOR TEXT PROGRAM

```
BI 1     YV 2     RH 3     AG 4     DW 10    QU 20    QT 30    EB 40
ST 50    WT 60    MT 70    ZC 80    RO 90    XK 100   EP 110   TV 120
EN 130   LT 140   LT 150   CR 160   NE 170   WR 180   EM 190   QN 200
IK 210   KS 220   JW 500   WE 510   VQ 520   EF 600   PU 1000  XI 1010
JM 1020  JL 1030  UH 1040  NB 1050  LZ 1060  DI 1070  LT 1080  LF 1090
AB 1100  XC 1110  EM 1120  DS 1130  ZI 1140  YQ 1150  AZ 1160  YE 1170
RL 1180  ES 1190  AO 1200  BJ 32000
```

COLOR TEXT PROGRAM

```
10 REM LETTERS IN COLOUR
20 GRAPHICS 18:REM GRAPHICS SCREEN 2+1
6 = NO TEXT WINDOW
25 POKE 712,0:REM BACKGROUND COLOUR
30 ? #6;" ThIs Is An ExAmPlE"
31 ? #6;"          OF "
32 ? #6;"   fLAsHiNg  TExt   "
33 ? #6:? #6
34 ? #6;"          By"
35 ? #6;"     JEff MaDdoCK"
36 ? #6
37 ? #6;"        TO end"
38 ? #6;"    PRESS select"
40 GOSUB 100:POKE 708,COLOUR:REM UPPER
CASE COLOUR
45 GOSUB 200
50 GOSUB 100:POKE 709,COLOUR:REM lower
case colour
55 GOSUB 200
60 GOSUB 100:POKE 710,COLOUR:REM INVER
SE UPPERCASE COLOUR
65 GOSUB 200
70 GOSUB 100:POKE 711,COLOUR:REM inver
se lowercase colour
75 GOSUB 200
80 IF PEEK(53279)<>7 THEN LIST :END
90 GOTO 40
99 REM RANDOM NUMBER SUBROUTINE
100 COLOUR=PEEK(53770)
110 IF COLOUR>230 THEN 100
120 RETURN
199 REM WAIT SUBROUTINE
200 FOR WAIT=1 TO 5:NEXT WAIT
210 RETURN
```

TYPO FOR LISTING2 PROGRAM

```
NP 10    HL 20    HV 25    EL 30    QM 31    BA 32    JT 33  LX 34
HF 35    WH 36    UZ 37    CQ 38    EZ 40    PA 45    MS 50  PB 55
FD 60    PC 65    KK 70    PD 75    OS 80    SR 90    MO 99  JC 100
TD 110   ZB 120   WF 199   FA 200   ZA 210
```

UNIVERSITY OF SOUTHAMPTON

ELECTRONICS AND COMPUTER SCIENCE DEPARTMENT

Application: In-house communications network and for designing integrated circuits as part of the MSc in Microelectronics and Design

Systems installed: 80 520ST and 1040ST^F Computer Systems, 16 of which are in one classroom

Lecturers at the University of Southampton have adapted the Atari ST computer range making it possible for the systems to act as terminals by inserting their own ROM chips, and then linking the Atari STs into their own "in house" design computer system. In this way the personal computers can act as terminals, providing the University, and in particular the Electronics and Computer Science Department, with a fast means of communications throughout numerous locations within a 3KM radius as well as one 16-computer classroom.

Using the ST personal computer lecturers and students can access data held on the main Univesity computer. They can make use of the fast processing power of the Atari computers with their 68000 processor and 1/2MB or 1MB built in disk drive to "number crunch" complex data. The high performance of the 520ST and 1040ST^{F}s, which are true 16/32 bit machines, was the primary reason experts at the University chose them, while the excellent price has made it possible for nearly every desk to have a personal computer and a terminal.

UNIVERSITY of SOUTHAMPTON

Department of Electronics and Computer Science

The competitive price/performance of the 520ST was an important factor in the decision to purchase, together with the open disclosure of the technical information required to implement our own systems software. We have experienced good reliability from our systems, some of which have now been in use for over twelve months.

E.J. Zaluska
Senior Lecturer in Electronics

As part of the Masters Degree course consisting of a series of morning lectures (leaving the afternoons free for study and hands-on use of the computers) the Atari ST is being used for the design of integrated circuits. Layouts are changed interactively using the mouse – a remote, hand-controlled cursor for speeding up the use of the keyboard. The software used on the computers for this part of the course is written inhouse by the lecturers themselves. The student's circuit diagrams, which make use of many non-standard characters, can be printed out on a plotter connected to the Atari machines.

The experts at the University believe the Atari 520ST and 1040ST^F computers have made it possible to provide students with some of the best technology available today, which supports their courses at a price lower than any alternatives currently on the market.

UNIVERSITY OF SUSSEX

SCIENCE POLICY RESEARCH UNIT

Application: To assist members of the University Research Unit in the preparation of reports, articles and books and to illustrate and structure talks and lectures

Systems installed: 39 Atari ST computer systems allocated as follows
25 in the Unit's offices
8 in reseacher's homes
6 for the use of research students

The Science Policy Research Unit at Sussex University was set up in 1966 to study important science and technology problems and to contribute to public debates and decision-making on these issues. The Unit is predominantly a research organisation though there is now an increasing involvment in teaching, having its own graduate programme. SPRU is one of a total of three centres funded as part of the Programme on Information and Communication Technology – PICT – initiated by the Economic and Social Research Council.

The results of SPRU's research are published in the form of books, reports, journal articles and in the Unit's own series of Occasional Papers. They are also disseminated through the media and at conferences.

The post-graduate intake to the Unit assist the reseach staff covering such areas as the transfer of technology to developing countries, military technology and arms, theories of technological innovation and their social impact, and research into the science, technology and energy policy in British economic development.

While the several research groups within SPRU are able to choose their own equipment the SPRU Computing and Telecommunications Committee will advise on purchases. The unit has now purchased some 39 Atari ST computers on the Committee's advice. With their diverse interests comes a variety of software needs and while the main use of the computers is for wordprocessing using 1st Word, other applications include graphics (both standard graphics and more free-form drawings to illustrate and structure talks and lectures), spreadsheeting and communications. Using both Uniterm and FASTCOM, the Atari computers are connected to both the University's VAX computers, and to academic and commercial networks such as JANET, EARN/Bitnet and Telecom Gold.

UNIVERSITY OF SUSSEX

Science Policy Research Unit

It is fair to say that only within the last few months – since the introduction of Atari STs into the unit – has use of personal computers become widespread within SPRU. One reason for this is undoubtedly that Atari STs are powerful enough to do the jobs we need them to do, at a price which we can afford.

Graham Thomas
Research Fellow, and secretary of the SPRU Computing and Telecomunications Committee

Future plans within SPRU include the development of several large relational databases and a venture into desktop publishing.

Other departments at the Sussex University include Arts and Social Sciences, Cognitive Studies and Administration. In all over 100 Atari ST computers are used throughout the University.

MID-KENT COLLEGE OF HIGHER & FURTHER EDUCATION
DEPARTMENT OF COMPUTING & MATHEMATICS

Application: To assist in teaching HND and HNC courses in computer-related subjects

Systems installed: 34 Atari Computer Systems consisting of:
27 1040ST^F Computer Systems
7 520ST Computer Systems

Following their original purchase in September 1985, Mid-Kent College use the Atari ST range of computers to assist in teaching approximately 120 students studying for their Higher National Diploma in Industrial Data Processing and the Higher National Certificate course in Computer Studies.

As part of a two year course (consisting of 36 study week in total) students are taught the principles of computers and computer programming. The lectures take about 28 hours of the student's time per week and the remainder is spent in practial "hands on" use of the Atari computers themselves. 25 1040ST^{F}s have been used to make up a programming laboratory where Metacomco's Pascal and Digital Research's 'C' are used to teach basic computer languages. Two further 1040ST^{F}s are used as a software development facility and seven 520STs are located in the computer applications laboratory.

In addition to the HNC and HND courses there are various short courses including the 68000 assembly language programming course using Metacomco's Assembler software. External courses are run in conjunction with major electronics companies in the area. These courses often being specially tailor-made to suit the specific needs of the companies concerned.

Kent County Council — Education Committee

Mid-Kent College of Higher and Further Education

The Atari ST was chosen for:
The 68000 processor providing 32 bit technology, the quality of the system architecture, the economy of price, the available software, the GEM system, the quality of the monochrome high resolution display, the large amount of information available about the systems, the technical back-up provided by Atari UK at Slough.

Philip Clarke.

Philip Clarke
Senior Lecturer, Department of Computing & Mathematics

Maintenance of the equipment is carried out by the College's own staff following their attendance of a special fault diagnosis course held at Atari headquarters in Slough. The software development and hardware diagnostic kits have been purchased, which not only help the staff with the equipment maintenance, but are also used to assist with their various courses.

The College is intending to set up an "Educational Users Bulletin Board" between other Atari computer users and are particularly interested in speaking to other educational establishments to both welcome comments and exchange ideas.

A further 12 Atari 1040ST^F computer systems have now been purchased to expand on their laboratory facilities.

STRATHCLYDE UNIVERSITY, GLASGOW
DEPARTMENT OF THERMODYNAMICS

Application: As part of the University's Degree Course, students are required to develop a basic understanding of computers and in particular computer languages

Systems installed: 70 1040ST^F Computer Systems

50 Atari 1040STF computer systems have been used to create a new computer laboratory for undergraduates in the Department of Thermodynamics at Strathclyde University.

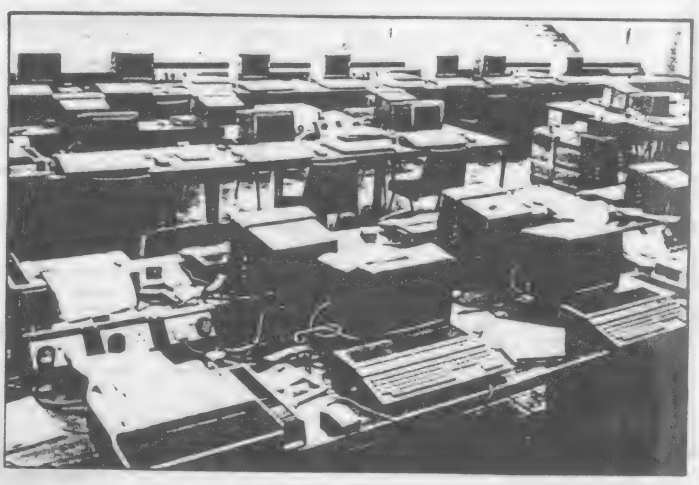
As part of a 75 hour course consisting of 25 lectures and 50 hours laboratory usage, undergraduates will be taught programming using FAST BASIC – a software language from Computer Concepts. The Atari computers were chosen for their fast processing and their ease of use. The systems were felt to be ideally suited for teaching, as students new to computers could quickly get used to the GEM based operating system.

In the third and fourth years, in conjunction with specific projects, students are encouraged to develop their own specialist engineering related software – some of which is planned to become available commercially. All the students are required to produce typed project reports with graphical illustrations. To ensure that everyone has an opportunity to use computers, Strathclyde have taken the unprecedented step of opening the computer laboratory from 8.00 am to 10.00 pm.

An additional 20 systems are split between the tutors and post graduate students for advanced programming in Fortran and C.

The computers are also being used at Strathclyde as terminals connected to the University's VAX machine so that software can be both down loaded to the 1040ST^F or simply used as a means of accessing software on the VAX system itself. In particular, by using the VT100/Tectronix emulator, tutors can log into the mainframe, carry out a series of programming sequences via the Atari "terminal", which can be recorded on the Atari ST computer disk. From there the information is then played back to the students by connecting the Atari ST computer via monitors in the classroom.

The biggest advantage perceived by Strathclyde University when buying the Atari 1040ST^F computer systems is that if compared with other terminals to mainframe computers currently available, not only is the Atari 1040ST^F less expensive (with all the major software languages written for it) but it also works as a personal computer with a host of work processing and graphics packages.



LOGO SIG

++++++SIG-LEG (LOGO, EDUCATION, GRAPHICS)++++++

VARIABLES IN LOGO

Being stirred at a recent meeting by a demonstration which used variables to construct an image of a computer system, I detemined to emulate the project and, with the help of you SIGLEGGERS perhaps push it a little further.

I found the concept of being able to put an image up on screen at any nominated size to be most exciting - imagine constructing a picture of an office and being able to simply drop a diagram of a workstation in at the appropriate size.

Variables in LOGO are not as extensive or flexible as in BASIC and other mathematically based languages, but is very easy to use and, within limits is extremely efficient and effective.

The essence of variables is explained in the Logo manuals under "SQUARES".

```
eg.        TO SQUARE :SIDE
Program(   REPEAT 4 [FD :SIDE RT 90]
           END
Run    (   SQUARE 4....or SQUARE 10
```

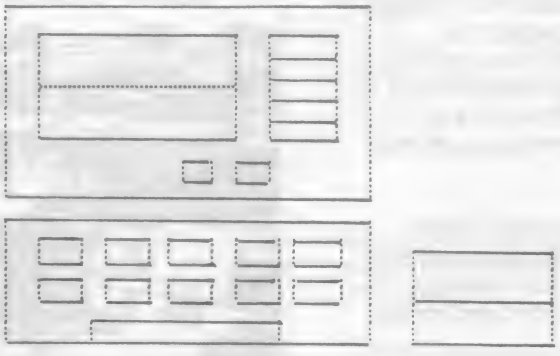
You may use double variables...

```
eg. TO POLYGON :NUM :SIDE :ANGLE
    REPEAT :NUM [FD :SIDE :ANGLE]
    END
```

...But more of that another time...

** Type in the program below and then type SYST 4 or SYST 8 and see what you get.
Tell us or show us at the next meeting what you have done.
PS: You need a LOGO language cartridge of course.

J.P.Braun



```
TO RRR
REPEAT 2 + RANDOM 6 [SETBG 1 + RANDOM
126 SYST 1 + RANDOM 8]
END

TO SYST :SIZE
MONITOR :SIZE
HT SETBG 48 BK 4 * :SIZE LT 90 PU FD 5.2
* :SIZE
SETPN 2
REPEAT 30 [ST PD FD 13.4 * :SIZE HT BK
13.4 * :SIZE]
END

TO MONITOR :SIZE
DD :SIZE
PU LT 90 FD 7 * :SIZE LT 90 FD 12 *
:SIZE
PD FD 26 * :SIZE RT 90 FD 14 * :SIZE RT
90 FD 26 * :SIZE RT 90 FD 14 * :SIZE
BK 4 * :SIZE PU RT 90 FD 10 * :SIZE
PD FD 14 * :SIZE RT 90 FD 8 * :SIZE RT
90 FD 14 * :SIZE RT 90 FD 8 * :SIZE
PU FD :SIZE PD REPEAT 4 [FD 2 * :SIZE RT
90] LT 90 PU FD :SIZE PD REPEAT 4 [FD 2
* :SIZE RT 90]
PU FD 4 * :SIZE PD LT 90 REPEAT 8 [PU FD
:SIZE PD FD :SIZE LT 90 FD 3 * :SIZE LT
90 FD :SIZE LT 90 FD 3 * :SIZE LT 90 PU]
END

TO DD :SIZE
CS PU BK 5 * :SIZE LT 90 FD 16 * :SIZE
RT 90 PD
PROCESSOR :SIZE
LT 90 PU FD 22 * :SIZE PD FD 10 * :SIZE
LT 90 FD 5 * :SIZE LT 90 FD 10 * :SIZE
LT 90 FD 5 * :SIZE
BK 3 * :SIZE LT 90 FD 10 * :SIZE
END

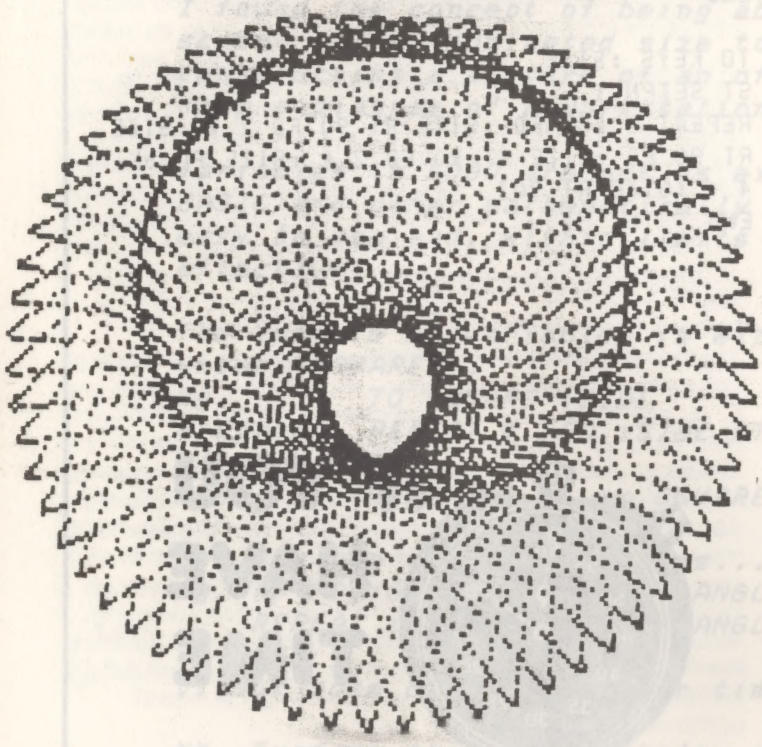
TO PROCESSOR :SIZE
KEYBOARD :SIZE
PD FD 2 * :SIZE LT 90 FD 26 * :SIZE
LT 90 FD 8 * :SIZE LT 90 FD 26 * :SIZE
LT 90 FD 8 * :SIZE
BK 8 * :SIZE LT 90 FD 6 * :SIZE RT 90 FD
2 * :SIZE LT 90 FD 14 * :SIZE LT 90 FD 2
* :SIZE
END

TO KEYBOARD :SIZE
KEYS :SIZE
PU FD 3 * :SIZE LT 90 FD 24 * :SIZE RT
90
KEYS :SIZE
END

TO KEYS :SIZE
ST SETPN 1
REPEAT 6 [PD FD :SIZE RT 90 FD 2 * :SIZE
RT 90 FD :SIZE RT 90 FD 2 * :SIZE PU BK
4 * :SIZE RT 90]
END
```

IF YOU HAVE TIME

SUBMIT AN ARTICLE TODAY!!!!!!!!



Rita.

'Now, thanks to this, I don't miss any obscene calls when I'm out.'

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